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REDACTED — FOR PUBLIC INSPECTION
Via ECFS

August 9, 2016

Marlene H. Dortch, Esq.
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

**Re: Special Access Rates for Price Cap Local Exchange Carriers,
WC Docket No. 05-25; Business Data Services in an Internet Protocol
Environment, WC Docket No. 16-143**

Dear Ms. Dortch:

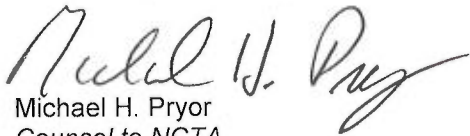
Pursuant to the procedures outlined in the Modified Protective Order, *Second Protective Order*, and *Data Collection Protective Order* in the below-referenced proceedings, the National Cable & Telecommunications Association ("NCTA") herein submits a redacted version of the attached comments in the above-referenced proceedings.

NCTA has designated for highly confidential treatment the marked portions of the attached documents pursuant to the Data Collection Protective Order,¹ Second Protective Order,² and Data Collection Protective Order³ in WC Docket No. 05-25 and RM-10593.

Pursuant to the protective orders and additional instructions from Commission staff, NCTA is filing a redacted version of the document electronically via ECFS, one copy of the Highly Confidential version with the Secretary, and sending two copies of the Highly Confidential version to Christopher Koves, Pricing Policy Division, Wireline Competition Bureau.

Please contact me if you have any questions or require any additional information.

Respectfully submitted,



Michael H. Pryor
Counsel to NCTA

Attachment

¹ *Special Access for Price Cap Local Exchange Carriers*, Modified Protective Order, DA 10-2075, 25 FCC Rcd 15168 (Wireline Comp. Bur. 2010).

² *Special Access for Price Cap Local Exchange Carriers*, Second Protective Order, DA 10-2419, 25 FCC Rcd 17725 (Wireline Comp. Bur. 2010).

³ *Special Access for Price Cap Local Exchange Carriers*, Order and Data Collection Protective Order, DA 14-1424, 30 FCC Rcd 11657 (Wireline Comp. Bur. 2015).

REDACTED - FOR PUBLIC INSPECTION

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Business Data Services in an Internet)	WC Docket No. 16-143
Protocol Environment)	
)	
Special Access for Price Cap)	WC Docket No. 05-25
Local Exchange Carriers)	

**REPLY COMMENTS OF
THE NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION**

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SUMMARY

The record in this proceeding confirms NCTA's position that there is absolutely no basis for regulating the rates charged by cable operators and other competitive providers of Business Data Services (BDS). Competitive providers have been investing billions of dollars to extend facilities to business customers all over the country and the record is clear that these investments, and the additional competitive options they offer, are having the effect of reducing the prices that customers pay for these services. The Commission should focus on taking steps to promote more of this beneficial competition, not regulating rates in a manner that discourages entry and investment.

The Commission at this point has no record upon which it could rationally impose rate regulation on any provider lacking market power, and the record is compelling that cable companies lack any semblance of market power. They are new entrants with small market shares and lack ubiquitous networks capable of providing BDS. Neither the Commission's hired economist nor any of the 15 other economists that submitted declarations in the initial round of comments suggest that cable operators have market power for any form of BDS or that there could possibly be any benefit to regulating the rates charged by these companies. Indeed, the Commission has no record upon which to conclude that BDS prices charged by cable companies or other competitors are unjust and unreasonable in violation of the Act, a necessary precondition for prescribing rates. The Commission's suggestion that regulation of cable companies might be warranted because they are able to provide BDS anywhere that they deploy DOCSIS 3.0 also has been thoroughly refuted.

The Commission's assessment of the BDS market as broken has similarly been rebuked. The BDS market, the record convincingly demonstrates, is experiencing substantial new

investment to meet ever growing demand with new and innovative Ethernet products at rapidly declining prices. Regulation in the face of these market dynamics is unnecessary and, in fact, threatens to undermine the benefits that competition is already bringing to this market. The record fails to identify, let alone substantiate, any benefit that would outweigh the enormous costs of regulating non-dominant providers.

Regulatory advocates nevertheless propose draconian price cuts that would be applied to all BDS at or below 1 Gbps in virtually every market with BDS demand. They continue to propose highly granular markets, either at the individual building level or by census blocks. Using either of these measures would lead to an administrative nightmare for industry, regulators and customers. Compounding the problems with using highly granular geographic markets, regulatory proponents claim such markets should be found competitive only if at least four competitors were serving at least one customer in the census block. Given that the vast majority of census blocks have fewer than four customers, this test is untethered from marketplace reality. The result would be regulation of some 99 percent of the market, a result totally at odds with the Commission's finding that "competitive entry and potential competition are bringing material competitive benefits to some places and to some products (most notably high bandwidth services)." Whatever the perceived imperfections in this market, surely more than 1 percent is competitive.

The attached economic analysis by Professor Michael Katz, a former chief economist at the Commission, and his colleague Dr. Bryan Keating, highlights the misguided nature of the regulatory proposals under consideration. Based on a comprehensive review of the record, they conclude that the proposed policies "risk substantially harming both competition and consumer welfare." A primary finding is that regulatory proponents have failed to account for the costs

and the inevitable imperfection of regulation. As they explain, “the ability of regulation to improve market performance is highly uncertain in a marketplace as complex as the one for BDS, which involves a wide range of complex, rapidly evolving, multidimensional products supplied by multiple providers at costs that vary by customer, service provider, and location.” These features of the BDS market, they conclude, “make it more likely that regulation will have adverse, unintended consequences such as reducing investment, harming innovation, and degrading service quality.”

Proposals to impose regulation of this magnitude on all providers not only are unsound as an economic matter and unwarranted by the facts, but also are predicated on the erroneous ground that all BDS providers are common carriers and thus must be subject to both a forced resale requirement and rate regulation. This is wrong on at least two grounds. There is no evidence that BDS providers offer BDS on a common carrier basis other than ILEC provision of TDM-based services that currently are subject to dominant carrier regulation. In fact, cable companies and others have explained they generally provide service on a private carriage basis. Nor is there any basis upon which to confer common carrier obligations on cable companies or other competitive providers, even assuming the Commission provided sufficient notice to make such a determination, which it did not.

It appears the Commission has set a course based on a mistaken belief and faulty data purporting to show that the BDS marketplace is in dire need of stringent price regulation. The facts simply do not bear this out. The Commission should change direction before it does serious harm to the significant portions of the marketplace that are performing well and deters the investment needed to further facilities-based competition.

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Exhibit A – Reply Declaration of Michael L. Katz and Bryan G.M. Keating

Exhibit B – Declaration of Scott Anderson

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**REPLY COMMENTS OF
THE NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION**

Pursuant to the Commission’s May 2, 2016 Tariff Investigation Order and Further Notice of Proposed Rulemaking,¹ the National Cable & Telecommunications Association (“NCTA”) respectfully submits these reply comments.

I. Introduction

The record does not support the broad new regulatory framework proposed by CLECs and some wireless carriers. However the Commission responds to the disputed and conflicting evidence regarding the extent to which incumbent LECs possess market power, the record is devoid of any basis to regulate any other provider, including cable companies. To the contrary, the record reflects that cable companies and other competitors are making substantial investments and bringing better services at lower prices. Proposals to reduce prices sharply and impose forced network sharing requirements on all providers threaten to undermine the very facilities-based competition that the Commission purports to promote. The Commission should

¹ *Business Data Services in an Internet Protocol Environment*, WC Docket No. 16-143, Tariff Investigation Order and Further Notice of Proposed Rulemaking, FCC 16-54 (rel. May 2, 2016) (“*Further Notice*”). The reply comment deadline was extended to August 9, 2016 in an order issued on July 21, 2016. *Business Data Services in an Internet Protocol Environment*, Order, DA 16-830 (rel. July 21, 2016).

reject calls for new and expansive regulations that would impose significant costs that far outweigh any intended benefits.

II. The BDS Regulatory Framework Should Account for the Significant Benefits of Competitive Entry and the Substantial Costs Attributable to Rate Regulation

The record confirms NCTA's initial comments that the marketplace for BDS is a vibrant and competitive market. Competitive providers are making substantial investments in facilities, systems and personnel to better serve an increasing number of customers with state-of-the-art Ethernet services. As summarized by Comcast, "cable providers have brought to thousands of small, medium, and large businesses a value proposition far better than what was previously available to them – the quintessential example of a market-driven virtuous cycle."² Customers are receiving the benefits of more choice and better services while also enjoying declining prices. In short, customers are reaping the benefits of competition at all levels of service, thoroughly negating the need to impose rate regulation on any competitive provider.

Whereas such regulation, especially if applied to non-dominant providers, would confer few, if any additional benefits that the market is not already providing, it would impose extraordinary costs and lead to an inevitable decrease in investment and service quality. Any reasonable weighing of costs and benefits compels the conclusion that further regulation should be approached with extreme caution and that regulation, particularly of competitive entrants, would be wholly unwarranted and unwise. Even those CLECs that have been the staunchest supporters of additional regulation recognize that it should be imposed only on carriers that possess and exercise market power.

² Comments of Comcast Corporation, WC Docket No. 16-153, WC Docket No. 15-247, WC Docket No. 05-25 at 10 (dated June 28, 2016) ("Comcast Comments").

A. The Record Confirms that BDS Customers Already Enjoy Significant Benefits Due to Substantial Investment by Cable Companies and Other Providers

The record reflects a vibrant, growing, and dynamic market that is creating more consumer choice, enabling innovative new products and at same time rewarding customers with lower prices.³ Fueled by increasing demand for higher capacity connections, company after company reports increased investment that is translating into additional metro fiber and more connected buildings. The declaration of John Mayo, submitted by Comcast, notes that, overall, the percentage of buildings connected to fiber increased to 42 percent in 2014 compared to just 11 percent in 2004.⁴ Clearly, output is expanding to meet ever growing demand.

1. The Record Demonstrates Impressive Levels of Investment

Cable companies and other new competitive providers have significantly increased their presence in the market through substantial new investment in fiber. Investment just by cable companies has been impressive:

- Charter reports that, since the beginning of 2013 it has invested [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] annually in the expansion of its BDS capabilities, and has expanded to [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

³ See, e.g., Comments of the Fiber to the Home Council Americas on the Further Notice of Proposed Rulemaking, WC Docket No. 16-143, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 at 6-7 (filed June 28, 2016) (“FTTH Comments”) (“A competitive market is characterized by falling prices, increased output, and greater innovation. When evaluated against these metrics, it is clear that the market for high performance BDS, which, for the past decade has been operating essentially free from regulation, is and will remain competitive.”).

⁴ Declaration of John Mayo on Behalf of Comcast Corporation at ¶ 39 (dated June 28, 2016) (*attached to* Comcast Comments) (“Mayo Declaration.”); see also Comments of TDS Metrocom, LLC, WC Docket No. 16-153, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 at 5 (filed June 28, 2016) (“TDS Metrocom Comments”) (noting that the basic goals of competition are “lower prices, better products, and more efficient methods.”).

[END HIGHLY CONFIDENTIAL INFORMATION] new locations.

- Comcast has invested [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] on the deployment of its fiber network from 2013 to 2015 and an additional [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] in installation costs for its fiber and coax networks during this three year period.⁶ Comcast added [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] over the 2012-2015 period.
- Cox has spent [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] to provide BDS to customers since 2013 and has deployed fiber to [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] additional locations since then and continues to grow business accounts at an average of [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]⁸
- Mediacom, which provides competitive BDS in small to mid-sized rural markets began deploying BDS on a significant scale in 2011 and has invested over \$4 billion in its high capacity networks, deployed roughly 600,000 strand miles of carrier grade fiber and provides backhaul to more than 1,000 wireless provider macro cell sites.⁹
- Smaller cable providers as well have substantial investments. ACA estimates that its members that are not incumbents “are making at least tens of millions and upwards of \$300 million annually to deploy facilities to support the provision of BDS.”¹⁰

Cable companies are not alone in making substantial investments. Fiber providers, including dark fiber providers that compete in the high capacity market, have also detailed their investments. Lightower Fiber Networks, for example, notes that it has a network of

⁵ Comments of Charter Communications, Inc., WC Docket No. 16-143, WC Docket No. 15-247, WC Docket 05-25, RM-10593 at 5 (filed June 28, 2016) (“Charter Comments”).

⁶ Mayo Declaration at ¶ 42.

⁷ *Id.* at ¶ 108.

⁸ Comments of Cox Communications, Inc., WC Docket No. 16-143, WC Docket No. 05-25 at 7-8 (filed June 28, 2016) (“Cox Comments”).

⁹ Comments of Mediacom Communications Corp., WC Docket No. 16-143, WC Docket No. 05-25, RM-10593 at 2 (filed June 28, 2016) (“Mediacom Comments”).

¹⁰ Comments of the American Cable Association, WC Docket No. 16-143, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 at 8 (filed June 28, 2016) (“ACA Comments”).

approximately 30,000 route miles providing access to over 15,000 service locations in the Northeast, Mid-Atlantic and Midwest.¹¹ Zayo reports that in March 2014 to December 2015, it committed to invest an estimated \$740 million in eleven major network expansions.¹²

These investments in new fiber and equipment are sunk costs. As noted by Professor Mayo, “[a] fundamental economic characteristic of such high-sunk-cost investments is that, once deployed, firms will compete especially vigorously.”¹³ This is certainly true of cable companies. To recoup these investments cable companies must attract and maintain business customers through superior service and value. Thus, in addition to facilities investments, companies have been increasing their sales and technical teams to speed deployment, provide customer care and ensure necessary technical support – all to better serve customers and reap an advantage in an ever growing market.¹⁴ As service choices and quality improve, consumers are reaping the benefit of this competition in the form of lower prices.

2. Prices Are Declining Rapidly Due to Competition

The record evidence is overwhelming that BDS prices at all bandwidth levels are declining. Comcast, for example, notes prices of its Ethernet Dedicated Internet service declined

[BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY

¹¹ Comments of Lightower Fiber Networks I, LLC, Lightower Fiber Networks II, LLC, and Fiber Technologies Networks, LLC, WC Docket No. 16-143, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 at 1 (filed June 28, 2016) (“Lightower Comments”).

¹² Comments of Zayo Group, LLC, WC Docket No. 16-143, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 at 2 (filed June 28, 2016).

¹³ Mayo Declaration at ¶ 55.

¹⁴ *See, e.g.*, Comcast Comments at 9-10 (describing expanding sales force and service delivery and service assurance expertise and systems to support BDS offerings); ACA Comments at 32-33 (noting that smaller providers “are dedicating additional personnel to their BDS sales and customer support teams with the aim of initiating service more quickly and reducing churn.”).

CONFIDENTIAL INFORMATION] in just over 12 months.¹⁵ Comcast reports similar declines for wholesale dedicated Ethernet services. Prices for 100 Mbps fiber service that ranged between **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per month in 2013 now sell for less than **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per month.

Charter and Cox report similar declines. Charter notes that, for legacy Time Warner Cable alone the average regional price of a 100 Mbps dedicated service declined from **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per month in 2013 to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per month by the first quarter of 2016. Prices at lower speed tiers decreased as well. Over the same time period, legacy Time Warner Cable's 10 Mbps service fell from an average of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per month to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per month, and its 5 Mbps service fell from an average of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** monthly.¹⁶ Cox reports that its Ethernet prices **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** between 2012

¹⁵ Declaration of John Guillaume on Behalf of Comcast Corporation at ¶ 13 (dated June 28, 2016) (*attached to Comcast Comments*).

¹⁶ Charter Comments at 6-7.

and 2016.¹⁷ Price declines occurred in all markets and for all bandwidths, [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL INFORMATION]¹⁸

Noting that declining prices in the face of increasing demand is a “key indicator of a competitive market,” the Fiber to the Home Council (“FTTH”) cites a recent Ovum, Ltd. study showing that Ethernet prices on a global scale were cut in half between 2013 and 2015 as a result of increased competition.¹⁹ The FTTH comments further note that Ovum projects that “by 2020, Ethernet volumes will have grown at a compound annual growth rate (“CAGR”) of 63.9 percent, coupled with a corresponding drop in price by 32.2 percent.”²⁰ Similar results are expected for the U.S., where Ethernet spending is projected to grow by more than 50 percent.²¹

Price declines have occurred not only in dense urban areas, but also in smaller, more rural markets as well. ACA notes that “smaller providers’ prices for BDS have been decreasing across their markets, whether urban or rural and for all customer segments, retail and wholesale. On average, smaller providers have decreased pricing for Ethernet services by 50 percent over the past five years.”²² These price declines have resulted from competition, not declines in cost. In other words, competition is driving down prices requiring providers to accept lower margins.²³ ACA’s members expect continuing price declines.²⁴ Midcontinent reports that bid prices for

¹⁷ Cox Comments at 24-25.

¹⁸ *Id.* at 24-25.

¹⁹ FTTH Comments at 7-8.

²⁰ *Id.* at 8.

²¹ *Id.* at 9.

²² ACA Comments at 36.

²³ *Id.* at 8.

²⁴ *Id.* at 36-37.

RFPs have declined [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] in the past two years.²⁵

These price declines have also acted to constrain incumbent LEC Ethernet prices. CenturyLink avers that competition is driving Ethernet pricing to “commodity levels” and that, “over the past five years” Ethernet prices have, on average declined [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION].²⁶ Craig Davis, Vice President for Sales and Account Management in CenturyLink’s Wholesale Markets Group, affirms that prices for 100 Mbps wireless backhaul circuits have [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] over the past five years due to competition in backhaul market, enabling wireless customers to force open contracts to obtain better pricing.²⁷ The Mid-Size ILECs cite to Vertical Systems Group Pricing Data for 2011 to 2015 for further evidence of Ethernet price declines, stating that sub-10 Mbps average monthly prices have declined more than 20 percent and, for speeds up to 1 Gbps, recurring monthly charges fell by an average of more than 30 percent from 2010 to 2015.²⁸

In a recent ex parte filing, Level 3 confirms that competition is driving down incumbent LEC prices. Level 3’s comments, filed as one of the Joint CLECs, included a table by John Merriman, Level 3’s VP of Finance, purporting to show the distances within which the company

²⁵ Declaration of Scott Anderson on Behalf of Midcontinent Communications, *attached hereto as Exhibit B* (“Anderson Declaration”) at ¶ 6.

²⁶ Joint Comments of CenturyLink, Inc., Consolidated Communications, Fairpoint Communications, Inc., and Frontier Communications Corp., WC Docket No. 16-143, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 at 24 (filed June 28, 2016) (“Mid-Size ILEC Comments”).

²⁷ Declaration of Craig Davis on Behalf of CenturyLink, Inc. at 5 ¶16 (dated June 28, 2016) (*attached to* Mid-Size ILEC comments) (“Davis Declaration”).

²⁸ Mid-Size ILEC Comments at 24-25.

could economically build based on the prices it charges for different bandwidths. During an ex parte presentation, Level 3 explained that the high list prices identified on the table overestimated actual build out scenarios because the competition that Level 3 itself exerted on the incumbent LECs led to much lower prices: “In fact, Level 3 must frequently charge prices significantly below its list prices because, for example, it must compete with incumbent LECs that reduce their own prices when faced with competition from Level 3.”²⁹ This is exactly what is supposed to be happening in a competitive market. Level 3’s competitive presence forces down prices for business customers without regard to whether they take service from the competitive provider or the incumbent – a choice to which the Commission should be agnostic. And it provides further evidence that the presence of just one competitor can force incumbent LEC price reductions to levels below that of the competitor.

In the face of this overwhelming record of declining prices, it is simply not credible to argue that rate regulation, especially of competitive providers, is necessary to simulate competitive pricing.³⁰ In particular, the evidence in the record confirms the fundamental irrationality of imposing rate regulation on non-dominant providers that, as the Commission has long recognized, have no ability to charge unjust and unreasonable rates.³¹ The Commission has

²⁹ Letter from Thomas Jones, Counsel for Level 3 Communications, to Marlene Dortch, Secretary, FCC, WC Docket No. 16-143, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 at 2 (dated July 15, 2016).

³⁰ It would be particularly indefensible to mandate reductions of current rates based on a finding that prices from the 2013 data collection ostensibly do not reflect then-existing competitive rates.

³¹ See, e.g., Comcast Comments at 44 (citing *Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor*, First Report and Order, 85 FCC 2d 1 ¶ 55 (1980); Cox Comments at 19-21; Lightower Comments at 9-10 (“Regulation of CFPs’ rates is unnecessary for the simple reason that ILECs are able to provide service everywhere and if ILECs’ rates are capped, CFPs will be unable, as a practical matter, to sell at prices above the ILEC rates, unless they provide a commensurate increase in value”).

repeatedly explained that applying rate regulation to firms that lack market power is an irrational policy because it “imposes costs without any corresponding benefit.”³²

B. In Light of the Benefits Competition Is Already Bringing to the BDS Market, the Substantial Costs of Regulation Cannot Be Justified, Particularly If Imposed on Competing Providers

The record confirms that the costs of imposing rate regulation on competing providers would be substantial. These costs include direct expenses that would be incurred in attempting to administer the byzantine regulatory schemes contemplated in the *Further Notice* and proffered by proponents of regulation. They also include the inevitable and substantial economic costs of decreased investment and innovation.³³ These “unintended consequences” of regulation can often result in the “biggest costs.”³⁴ Should the Commission undertake the required cost/benefit calculation, it would readily conclude that regulation of cable companies and other providers that lack market power is unwarranted. Not only are there no likely additional benefits to be gained from regulating firms without market power, the regulatory schemes at issue would undermine the benefits that competition is already bringing to consumers.

Competitive carriers across the spectrum, including those that nominally support the INCOMPAS/Verizon proposal, confirm this point. The Joint CLECs, for example, agree that it is unnecessary and “affirmatively harmful to apply *ex ante* rate regulation” to BDS providers that

³² NCTA Comments at 33 (quoting *Competitive Carrier FNPRM*, 84 FCC 2d at ¶ 22). Rate regulation of non-dominant providers is unprecedented not only in the U.S., but also in Europe. Dr. Marius Schwartz and Dr. Federico Mini, Economic Basis for Not Regulating Competitive Providers of Business Data Services, White Paper at 5 (June 26, 2016) (*attached as Appendix A to ACA Comments*) (“To our knowledge, a new entrant has never been subject to price regulation on its BDS in any of the European Union countries.”).

³³ See, e.g., ACA Comments at 25 (Subjecting a competitive provider to rate regulation “would discourage it from undertaking investments needed to upgrade and expand its infrastructure to provide BDS.”).

³⁴ See Reply Declaration of Michael L. Katz and Bryan G.M. Keating on Behalf of NCTA, *attached hereto as Exhibit A* at ¶¶ 6, 12-23 (“Katz/Keating Declaration”).

lack market power.³⁵ They acknowledge that rate regulation imposes “compliance costs” and therefore should not be imposed on new entrants “under any circumstances.”³⁶ Other entrants in the BDS market concur. Lightower states that the imposition of rate regulation on it and other competitive fiber providers (“CFPs”) would “dramatically increase a CFP’s cost of doing business and force it to cut back on the investments it is making in constructing new network [sic] that creates a more competitive market.”³⁷ It is readily apparent from the functioning of this market that forced price cuts, especially on top of already rapidly declining Ethernet prices, would reduce investment and new construction. Before undertaking new investment, BDS providers must weigh the costs of construction and related expenditures against the revenue opportunity that can be reasonably expected over time. Typically, to justify expansion, this analysis must show that net revenues will exceed some predetermined internal rate of return or hurdle rate. It is a natural consequence of reduced prices that revenue opportunities will shrink, resulting in some projects being abandoned that would otherwise have produced the requisite rate of return.³⁸

³⁵ Comments of Birch, Earthlink, and Level 3, WC Docket No. 16-143, WC Docket No. 15-247, WC Docket No. 05-25, and RM-10593 at 59 (dated June 28, 2016) (“Joint CLEC Comments”).

³⁶ Joint CLEC Comments at 60. Verizon proposes a temporary exemption from regulation for new entrants, but that proposal does little to temper the harmful effects of regulating competitive providers. Even if deferred rate regulation reduces the incentive to invest marginally less than immediate rate regulation, both approaches produce worse results than the current and longstanding policy of not regulating the rates charged by competitive providers.

³⁷ Lightower Comments at 2. Lightower notes that imposing rate regulation on it “would create a level of uncertainty, cost, and administrative burden that would be enormously disruptive to CFPs.” *Id.* at 2-3.

³⁸ See, e.g., Lightower Comments at 21. INCOMPAS submitted a report by WIK Consult purporting to show that price cuts likely would not result in overall revenue reductions because reduced prices would stimulate more demand. Letter from Karen Reidy to the Honorable Tom Wheeler, Chairman, Federal Communications Commission, WC Docket Nos. 16-143, 05-25 & RM-10593, filed July 29, 2016 (attaching WIK-Consult Report: Welfare effects of reductions in the price of leased line equivalents) (“WIK-Consult Report”). That report, however, is subject to

Several providers offered specific examples of the effect of reduced prices on their ability to undertake construction projects. Comcast, for example, undertook an analysis that found that [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] cell site backhaul projects would not have been undertaken had prices been forced ten percent lower.³⁹ Cox reports that price cuts as low as 5 percent would cause projects that otherwise would pass the company's hurdle rate to fall below the threshold.⁴⁰ As Cox further notes, forced price cuts would also have adverse consequences for the E-rate program as some projects would become uneconomic, reducing the number of competitors that could respond to a request for proposal.⁴¹

Rate cuts would be particularly detrimental because competitively driven price declines are already putting pressure on providers to lower their internal rates of return, extend the time period for recovery of capital or, in some instances, simply forgo projects. Changes in customer

numerous flaws and erroneous reasoning and conclusions, as amply demonstrated in a recent analysis by the Phoenix Center. Perspectives, Learning from Bad Technique: The WIK-Consult Report on Business Data Services, George S. Ford, PhD, Aug. 4, 2016, available at <http://www.phoenix-center.org/perspectives/Perspective16-07Final.pdf> (finding that the WIK-Consult Report “makes several serious errors in its analysis, including but certainly not limited to, a focus on irrelevant factors, inaccurate computations, self-contradictory claims, and improper benchmarks.”) NTCA agrees that revenue effects are not relevant to the legal standard for determining just and reasonable rates. *Id.* at 2 NCTA points to revenue effects here because they are relevant to the question of whether providers can afford to build out to customers. Among its many flaws, the conclusions of the *WIK-Consult Report* are based on a “tacit assumption” that price reductions do not preclude new construction because they would not drop prices below cost – an assumption that cannot be made in all instances here. See *WIK-Consult Report* at 18 n. 20 (“Our tacit assumption throughout is that price reductions to end users of Ethernet-based leased line services of up to 25% would in no case drive prices below the actual cost of providing the service.”).

³⁹ Comcast Comments at 43.

⁴⁰ Cox Comments at 22.

⁴¹ *Id.* at 22-23.

preferences are also diminishing revenue opportunities needed to justify new builds. As various parties note, wireless carriers are increasingly turning to dark fiber solutions for cell site backhaul.⁴² Moreover, companies have an expanding and highly competitive array of options for the “over-the-top” services, such as managed communications, that reduce the available pool of revenues from which network providers can recover construction costs.⁴³ Forcing price reductions on top of these market pressures will only reduce competitive investment and, contrary to the Commission’s stated goal, concentrate more of the market into the hands of the incumbent LECs.

The record evidence of the costs of regulation is consistent with well-recognized economic principles that “regulatory price ceilings will reduce incumbents’ and entrants’ incentives to invest in new facilities and services.”⁴⁴ Reducing the incentives to invest “would be particularly harmful to consumers,” exactly the opposite of the outcome desired by the Commission.⁴⁵ Moreover, as noted by Drs. Katz and Keating, imposing rate regulation, particularly on all BDS providers as urged by Verizon and Sprint, “can create a vicious cycle whereby investment is undermined and facilities-based competition does not develop, or does not develop as quickly or expansively as it otherwise would, thus perpetuating the market conditions that triggered regulation.”⁴⁶ In addition to reducing investment, capping prices erodes quality because price-capped firms cannot “capture the full incremental surplus generated by an

⁴² See, e.g., Comcast Comments at 6; Cox Comments at 13; Mid-Size ILEC Comments at 7.

⁴³ See, e.g., Declaration of Ken Shelton on Behalf of Cox Communications, Inc. at 7 ¶ 13 (dated June 27, 2016) (*attached to* Cox Comments) (“Shelton Declaration”).

⁴⁴ Katz/Keating Declaration at ¶ 14.

⁴⁵ *Id.* at ¶ 16.

⁴⁶ *Id.* at ¶ 17.

increase in service quality.”⁴⁷ While the quality-impacting effects can occur when regulating a monopolist, the adverse consequences are even worse when all providers in a market are price constrained through regulation because new entrants that typically are not subject to price caps would seek to gain market share by offering better quality services. They are much less likely to do so if they cannot capture the monetary rewards that should accrue to companies offering a comparatively better product.⁴⁸

In addition to the economic cost of decreased investment and reduced consumer welfare, BDS providers would face significant administrative and financial burdens under the proposed rules. There is consensus among virtually all providers, including CLECs, that compliance costs would be significant. Providers have not designed their processes and systems in ways that allow them to provide the information needed to comply with the proposed rules.⁴⁹ Many competitive providers would need to design, launch, and maintain new back office systems; dedicate staff to research and analyze market data; and redirect resources from business development and expansion to compliance with reporting obligations.⁵⁰ These are all costs that would result from the complexity of the rate setting process inherent in any proposal to benchmark rates that could vary by census block or census tract.⁵¹

⁴⁷ *Id.* at ¶ 20 (quoting Professors Sappington and Weisman).

⁴⁸ *Id.* at ¶ 21.

⁴⁹ See Declaration of Jeremy Bye and Larry Steelman on Behalf of Cox Communications, Inc. at 14 ¶ 35 (dated June 27, 2016) (*attached to Cox Comments*) (“Bye-Steelman Declaration”); Lighttower Comments at 22.

⁵⁰ See Bye-Steelman Declaration at 14 ¶ 35; ACA Comments at 41; Lighttower Comments at 22.

⁵¹ A recent ex parte filing by Level 3 expounded at length on the administrative burdens that a benchmarking regime would create. See Letter from Thomas Jones, Counsel for Level 3 Communications, to Marlene Dortch, Secretary, FCC, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 (filed July 25, 2016) (“Level 3 July 25th Ex Parte”).

It bears emphasizing that these excessive costs would be incurred whether the Commission regulates rates through price caps or some form of benchmarking. As Cox described, there are tremendous complexities in determining the prices and locations that should be compared because Ethernet services are not priced at the same increments as TDM services and potential locations for comparison can have significantly different characteristics.⁵² These complexities would make it difficult and costly to attempt to automate the pricing process so that sales representatives can quickly respond with price quotes and information. Therefore, service providers may need to complete much of the analysis required to comply with the proposed rules using a time intensive, manual process, at least initially.⁵³

The compliance process would disproportionately harm smaller providers, as well as those that provide service to rural areas. Lightower, for example, stated that “the cost of disclosure is largely insensitive to the dollar volume of services sold and would fall more heavily on a smaller carrier, which has a smaller volume of service over which to spread the cost.”⁵⁴ As NCTA explained in its initial comments, the same concerns apply to rural providers which must deploy networks that will have fewer customers spread over larger geographic areas.⁵⁵ The particular challenges faced by cable companies and other competitive BDS providers offering services in rural areas should regulation be applied to them are further explained at Section III.E.

But even the largest companies express concerns that rate regulation based on highly granular geographic markets would be extremely burdensome. AT&T notes, for example, that attempting to track regulation at the census block level would be “an administrative nightmare

⁵² Cox Comments at 28-29.

⁵³ Bye-Steelman Declaration at 14 ¶ 35.

⁵⁴ Lightower Comments at 22.

⁵⁵ NCTA Comments at 81-83.

for both regulators and providers,” and would “create enormous challenges to both providers and their customers when negotiating prices terms and conditions.”⁵⁶ AT&T estimates that even using larger census tracks would require revising its billing and tracking systems and would “take approximately 18-24 months and divert tens of millions of dollars.”⁵⁷

In contrast to evidence regarding the direct and indirect costs of regulation, the record is virtually devoid of reasoned evidence of benefits, as Drs. Katz and Keating conclude:

Regulation is particularly problematical in an industry such as BDS that has multiple, competing providers offering a wide range of products that have quality levels that are difficult to measure and are constantly evolving due to innovation. These factors greatly increase the complexity of regulation and make it more likely that regulation will give rise to adverse unintended consequences. Thus, it is even more important to have sound evidence of significant potential benefits of ex ante price regulation before imposing it ... the factual record in this proceeding does not contain such evidence. Instead, the record indicates that ex ante price regulation – especially if applied to all BDS providers in a large number of markets declared to be non-competitive markets – would very likely impose greater costs than benefits.⁵⁸

The central and critical failing of the regulatory proponents is that they rely almost exclusively on econometric analyses purporting to demonstrate statistically significant relationships between ILEC BDS prices and competitive entry, yet provide no information to help the Commission weigh the benefits of the proposed regulatory constructs against the costs they inevitably would impose. Those econometric studies simply “do not support the proposals for pervasive ex ante price regulation.”⁵⁹

⁵⁶ Comments of AT&T Inc., WC Docket No. 16-143, WC Docket No. 05-25, RM-10593 at 40 (dated June 28, 2016) (“AT&T Comments”). It is noteworthy that none of the entities advocating census block level regulation were participants in the Connect America Fund challenge process, while the parties that did participate in that process (price cap LECs other than Verizon and cable operators) all have raised concerns about the administrative burdens associated with such a process.

⁵⁷ AT&T Comments at 40.

⁵⁸ Katz/Keating Declaration at ¶ 28.

⁵⁹ *Id.* at ¶ 30.

C. There is No Basis to Find Cable Company Rates Unjust and Unreasonable

The Commission's rationale for undertaking this proceeding is to ensure that BDS rates are just and reasonable in conformity with section 201(b) of the Communications Act, which is the primary source of legal authority cited by the Commission to impose rate regulation.⁶⁰

Traditionally, the determination of just and reasonable rates requires a balancing of interests between rate payers, to prevent overcharging, and the utility's investors, to ensure a reasonable return on investment within a zone of reasonableness.⁶¹ At a minimum, the analysis requires an assessment of rates charged and costs incurred by the to-be-regulated entities in providing the service at issue.⁶² Even in the age of price caps and detariffing, the Commission must have a sufficient record to determine whether a carrier's or class of carriers' charges are excessive either in relation to costs or a meaningful baseline indicating a reasonable, competitive price.⁶³ Here,

⁶⁰ *Further Notice* at ¶ 261-263. See 47 U.S.C. § 201 (b) ("All charges, practices, classifications, and regulations for and in connection with [interstate or foreign] communication service, shall be just and reasonable, and such charge, practice, classification, or regulation that is unjust and unreasonable is hereby declared unlawful."). The Commission apparently equates a "competitive price" with a "just and reasonable charge." As explained below, even assuming it is reasonable to equate the two, there is no basis in the record to determine from the economic studies what constitutes a competitive price.

⁶¹ See *Verizon v. FCC*, 535 U.S. 479, 481 (2002) ("*Verizon*") (citing *FPC v. Hope Natural Gas*, 320 U.S. 591 (1944)).

⁶² See *Verizon*, 535 U.S. at 487-88 (describing the "enduring feature of ratesetting" through rate of return to price caps as "calculating the rate base and then allowing a fair rate of return on it [as] a sensible way to identify a range of rates that would be just and reasonable to investors and ratepayers.").

⁶³ See, e.g. *Rates for Interstate Inmate Calling Services*, Second Report and Order and Third Further Notice of Proposed Rulemaking, 30 FCC Rcd 12763, 12772, ¶ 15 (2015) (to set price caps, the Commission had obtained "significant cost and operational data" from providers "representing well over 85 percent" of the market) (sub. history omitted); *Access Charge Reform*, Seventh Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd 9923, 9924, ¶2, (2001) ("*CLEC Access Charge Order*") (in determining whether CLEC access charges imposed on IXCs are "just and reasonable," the Commission reviewed substantial data on CLEC prices and determined the degree to which those prices exceed the regulated ILEC rates for comparable service). In concluding that CLEC access charges were unreasonable, and establishing an "interim" framework, the Commission noted that in a competitive market, new

however, there is no analysis of prices charged by cable companies or other new entrants and there is not a scintilla of evidence relating to cable companies or other competitors' costs of providing service or what would constitute a reasonable return on capital. Moreover, the information that the Commission collected on BDS provider revenue (which it is using as a proxy for prices), is nearly four years old, yet prices have remained anything but static and have by all accounts been declining rapidly. For all of these reasons, it would be arbitrary and capricious in the extreme to prescribe rates for cable companies or other new entrants, whether through price caps or benchmarks.

Nor does section 201 confer upon the Commission the authority to lower providers' rates to make it more affordable for other providers to buy their services so as to, for example, aid in the deployment of 5G wireless services (even assuming a causal connection between lower BDS rates and 5G deployment, which itself lacks any evidentiary support). The mere fact that a customer would prefer to pay less is a wholly insufficient basis on which to find that rates are unreasonable. As NCTA's initial comments explained, the purpose of section 201's unjust and

entrants typically price their product at or below the level of the incumbent provider whereas evidence there indicated some CLECs were pricing well above ILEC rates). *CLEC Access Charge Order*, 16 FCC Rcd at 9941, ¶ 45. *Compare Sprint Comm. Co. LP v. MGC Comm., Inc.*, Memorandum Opinion and Order, 15 FCC Rcd 14027 (2000) (rejecting Sprint complaint that CLEC access charges in excess of the competing incumbent LEC are per se unreasonable under section 201) with *Permian Basin Area Rate Cases*, 390 U.S. 747, 769 (1968) (Although regulators may upon a proper record impose rates on all regulated providers within a geographic area without assessing each individual provider's costs of providing service or financial situation, the regulator must still have "representative evidence, ample in quantity to measure with appropriate precision the financial and other requirements of the pertinent parties."). No such evidence exists here.

unreasonable rate standard is to balance the needs of providers and consumers, not to enable one set of providers to appropriate networks built by other providers.⁶⁴

Apart from these fatal legal infirmities, the record does not provide the Commission with a reasoned economic basis to infer that any BDS rates are above a “competitive level.” As Drs. Katz and Keating explain, the regression studies upon which the Commission and regulatory proponents rely do not identify a competitive price: “[A]s a matter of economic logic, even a finding that the number of competitors has an effect on prices does *not* imply that prices in markets with fewer competitors are above an ‘effectively competitive’ or ‘reasonable’ level.”⁶⁵ One reason for this is that the studies do not account for economies of scale that typify the BDS market. In a market subject to economies of scale, providers cannot viably serve all customers at marginal costs because such prices would not permit a contribution to the common costs of the network.⁶⁶ In short, providers would soon find themselves out of business. Additionally, the studies do not take into account the wide variation of prices charged (even at constant

⁶⁴ NCTA Comments at 48-49. In contrast, Congress specifically added provisions in the 1996 Act, primarily sections 251, 252, and 271, to facilitate competitive entry through the use of facilities deployed by others. *See, e.g., CLEC Access Charge Order*, 16 FCC Rcd at 9936 n.81 (stating Congress adopted section 251 market opening provisions, particularly access to UNEs, to “promote market entry by competitors” in light of the high costs of facilities-based entry.).

⁶⁵ Katz/Keating Declaration at ¶ 47 (emphasis in original).

⁶⁶ *Id.* at ¶¶ 47-49 (“It has long been recognized in antitrust and regulation that it makes little sense to hold marginal cost pricing to be the standard for what constitutes ‘effectively competitive’ or ‘reasonable’ pricing in a market subject to economies of scale. Such a standard would render suppliers economically unviable (they would be unable to cover their costs of operation) and would thus harm consumers. Yet, when proponents of regulation (at least ostensibly) rely on Professor Rysman’s study and similar econometric exercises to justify regulation, they fail to consider the role of economies of scale and the appropriate cost benchmarks.”)

bandwidths)⁶⁷ or the costs incurred. As Drs. Katz and Keating explain “[a] true competitive price would reflect the costs of the specific offering,” whereas the econometric studies “focus on estimating the average relationship between competition and prices.”⁶⁸ The studies, therefore “fail to provide a sound basis for regulating BDS prices and risk leading to inefficient outcomes.”⁶⁹

III. The Commission Should Take A Far Narrower Approach to Regulation than Advocated by the CLECs and Wireless Carriers

If the Commission is to go down the highly inadvisable road of expanding rate regulation of BDS, it must at least limit that regulation to providers that exercise market power, which under the traditional and economically cognizable definition, means providers that can control price.⁷⁰ Moreover, in light of the cost and uncertainties of regulation, it should make every effort to identify appropriately limited product and geographic markets that demonstrably exhibit market failure. The proposals under consideration do not come close to meeting these criteria.

A. There Is No Basis in the Record to Regulate Competitive Providers That Do Not Possess Market Power, as Even CLECs Acknowledge

In its initial comments, NCTA explained that, consistent with long-standing Commission and D.C. Circuit precedent and sound economic policy, imposing rate regulation on non-dominant providers would create unnecessary costs because such providers have no ability to

⁶⁷ See Katz/Keating Declaration at ¶ 50 (noting that Professor Rysman found that that mean price for DS1 service is \$219 with a standard deviation of \$252 and a mean price for DS3 service of \$1,314 with a standard deviation of \$4,401.)

⁶⁸ *Id.* at ¶ 51.

⁶⁹ *Id.* at ¶ 52.

⁷⁰ The Commission’s recent order lifting dominant carrier regulation over incumbent LEC switched access services reiterated this definition. *In the Matter of Technology Transitions*, Declaratory Ruling, Second Report and Order, Order on Reconsideration, FCC 16-90 at ¶ 10 (rel. July 15, 2016) (“*Technology Transitions Declaratory Ruling*”).

impose rates higher than the dominant carrier.⁷¹ This fundamental precept underpins decades of highly successful, streamlined regulation of competitors. As noted above, even the CLECs that have been the staunchest advocates of additional regulation agree that it should be limited to the dominant provider and that regulating new entrants would impose unnecessary and competition damaging costs.⁷² Cognizant, however, of the Commission's proposal to jettison the dominant/non-dominant framework, the CLECs now rechristen the dominant carrier variously as the "market leader" or "leading competitor."

Apart from this name change, the CLECs fully embrace the fundamental principle announced in the *Competitive Carrier* proceeding that only the dominant provider should be subject to regulation.⁷³ The CLECs also make clear their view that the incumbent LEC is the market leader in all instances. Accordingly, rate regulation of any other provider is unnecessary unless and until such provider achieves market dominance: "As the Commission has long held, it is unnecessary and even potentially harmful to apply *ex ante* rate regulation to competitors without market power. Business Data Services providers without market power have no ability to sustain prices above the level charged by the leading competitor in the market."⁷⁴ Windstream

⁷¹ NCTA Comments at 30-34.

⁷² See e.g., Joint CLEC Comments at 58-60; Comments of Windstream Services, LLC on the Further Notice of Proposed Rulemaking, WC Docket No. 16-143, WC Docket No. 05-25, RM-10593 at 60-78 (dated June 28, 2016) ("Windstream Comments"); Comments of INCOMPAS, WC Docket No. 16-143, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 at 10-11 (dated June 28, 2016) ("INCOMPAS Comments").

⁷³ See, e.g., Joint CLEC Comments at 58-60 ("Under the legacy dominant carrier regulatory framework, the Commission treated incumbent LECs as dominant and subject to *ex ante* rate regulation absent an affirmative finding of non-dominance. In order to ensure that its regulatory regime is technology-neutral and service provider-neutral, the Commission should replace this legacy regime with one under which *ex ante* rate regulation applies to the leading competitor in a noncompetitive market. In light of current market conditions, incumbent LECs are clearly the leading competitor in all relevant Business Data Services markets."). *Id.* at 58.

⁷⁴ *Id.* at 59.

too repeatedly points to the need to regulate the “market leader,” that is, a carrier with market power, and leaves no doubt it believes the incumbent LEC qualifies.⁷⁵ In conformity with its members, INCOMPAS too recognizes that regulation must be tied to addressing abuse of market power and it focuses its concerns on the incumbent LEC.⁷⁶ Drs. Katz and Keating also confirm this analysis, concluding that “[e]xtending regulation to competitive providers would impose costs without generating incremental benefits.”⁷⁷

The CLECs’ conception of the “market leader” is consistent with traditional notions of market power historically relied upon by the Commission and as articulated in the *Competitive Carrier* proceeding. For example, they point to the ability to impose a price squeeze through ownership of bottleneck facilities and the ability to impose supracompetitive rates.⁷⁸ The CLECs make clear elsewhere that they do not view cable companies as controlling bottleneck facilities.⁷⁹

⁷⁵ See, e.g., Windstream Comments at 37-39 (describing incumbent LECs as having market power over wholesale BDS inputs and identifying “the large ILECs” as the “current market leaders”). Elsewhere Windstream suggests that there may be other market “leaders,” for example where a cable company and ILEC both provide BDS and potentially may have the ability and incentive to exercise coordinated market power. *Id.* at 42-43. Windstream, however, provides absolutely no evidence to suggest either that cable providers have market power or that they engage in coordinated activity with the ILECs. In fact all of the evidence in the record points convincingly to the contrary conclusion. Cable providers are competing vigorously with incumbent LECs, as well as other CLECs and BDS providers, and have forced and have in turn been forced to reduce prices through competitive pressures.

⁷⁶ INCOMPAS Comments at 4-5.

⁷⁷ Katz/Keating Declaration at ¶ 81.

⁷⁸ See, e.g., Joint CLEC Comments at 72-74 (expressing concerns about leading competitor’s ability to engage in a price squeeze).

⁷⁹ See, e.g., Joint CLEC Comments at 25-26 (stating that cable Ethernet over HFC “is not a source of actual or sufficient potential Business Data Services competition to constrain incumbent LEC prices.”); Windstream Comments at 17 (“cable HFC-based Ethernet can never be an alternative for symmetrical services above 50 Mbps; cable can only provide higher-bandwidth Ethernet services where it has deployed fiber to the end user, which is a much smaller subset of cable locations.”).

In light of these statements, it seems clear that the CLECs would prefer to impose regulation solely on the incumbent LECs, but they leave open the possibility that another provider or class of providers could supplant the incumbent LECs as the “market leader.” They proffer no specific details; however, to explain how that substitution would take place or what specific findings would have to be made to elevate a competing provider into a market leader.⁸⁰ To be consistent with their reliance on the *Competitive Carrier* framework, at a minimum the new “market leader” would have to possess and exercise sufficient market power to preclude the possibility that new entrants could charge higher prices than the new leader.⁸¹

It is unlikely that such a new market leader with market power would emerge given the dynamic nature of the BDS market and the large number of competitors vying for customers. In every other context where the Commission has found that a formerly dominant provider is no longer dominant, not once has the Commission ever found it necessary to revisit its deregulatory decision based on concerns that a new provider has become dominant. Such a result is similarly unlikely in the BDS context, and the speculative possibility that some future competitive provider might one day acquire market power in particular areas or for particular services certainly provides no basis for imposing rate regulation today on competitive providers that plainly have no such power in any area or for any service. Moreover, threatening to impose regulation if another provider competes successfully enough to supplant the current market

⁸⁰ *Id.* at 57 (The Commission should assess whether another class of competitors has “ubiquitous (or nearly ubiquitous) networks used to provide the relevant” BDS. If so the Commission should assess market share “as well as other relevant market factors.”). *Id.*

⁸¹ *Id.* at 59 (“That is, if the leading competitor is subject to *ex ante* rate regulation, other competitors in the relevant market would likely be forced to charge prices that are no higher than the regulated prices charged by the regulated competitor. If the non-leading competitors do not do so, they will likely lose market share and will not be able to sustain their presence in the market.”).

leader would “act as a tax on success and thus could be expected to deter investments and competition that could otherwise benefit consumers.”⁸²

B. The Record Supplies No Basis to Conclude that Cable Companies Have or Will Acquire Market Power

As noted above, many of the nominal supporters of new regulation urge its confinement to market leaders that possess market power given that no benefits accrue in regulating non-dominant competitors. The record is clear that there is no basis for designating cable companies as market leaders as they do not come close to possessing market power in any BDS market. NCTA’s initial comments recounted the overwhelming evidence demonstrating that cable companies lack market power under any reasonable definition of the term.⁸³ Other comments filed in response to the *Further Notice* resoundingly confirm the point.⁸⁴ Lacking market power, cable companies and other new entrants are “*entitled* to treatment as ‘nondominant’ rather than ‘dominant’ carriers under existing Commission rules,” as the Commission recently reaffirmed in its *Technology Transition Declaratory Ruling*.⁸⁵

One indication that cable companies lack market power is that they remain far behind incumbent LECs and CLECs in market share even after the extensive investments made by cable companies in fiber networks. The Commission itself recognized that notwithstanding projected 20 percent year over year growth, cable companies’ overall market share would increase from

⁸² Katz/Keating Declaration at ¶ 86.

⁸³ NCTA Comments at 19-30 (noting that cable providers’ market share significantly lags behind ILECs and CLECs, that CLECs are the ILECs’ primary competitors, and that cable providers do not have ubiquitous BDS networks).

⁸⁴ Charter Comments at 11-13; Comcast Comments at 66; *See also* Joint CLEC Comments at 85 (“The primary focus of this regime should be to limit the extent to which incumbent LECs can use their market power in non-competitive Business Data Services markets to harm competition and consumer welfare.”); Comments of Public Knowledge, *et. al.*, WC Docket No. 16-43, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 at 6-7 (dated June 28, 2016) (“Public Interest Comments”).

⁸⁵ *Technology Transitions Declaratory Ruling* at ¶ 20 (emphasis added).

only 5 percent in 2013 to less than 8 percent at the end of 2016.⁸⁶ Comcast's comments add further confirmation. Despite substantial investment to expand its fiber network and become more competitive with incumbent LECs, Comcast has achieved a revenue share of less than [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL INFORMATION]⁸⁷ Comcast reports that it achieved a market share of [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] among Fortune 1000 firms.⁸⁸ Comcast's summation applies to all cable companies – “while [] making large investments in the BDS marketplace and having a positive impact on the marketplace through this emerging competition, [Comcast] remains very much a new entrant and a relatively minor player compared to ILECs and a number of large CLECs.”⁸⁹

The record also confirms that cable companies' HFC networks provide no basis to assume that they possess market power. Cable HFC networks are not bottleneck facilities conferring control over the BDS market. As NCTA explained, those networks are not ubiquitous in any meaningful sense for purposes of providing BDS services.⁹⁰ Comments from cable companies confirm that their provision of Ethernet over HFC (“EoHFC”) is limited in terms of scope, speed, and performance. Comcast notes that even where EoHFC is available, “the demand for such services has been and likely will continue to be very limited” and that EoHFC

⁸⁶ See, e.g., Comcast Comments at 20 (citing *Further Notice* at ¶ 218).

⁸⁷ *Id.* at 21.

⁸⁸ *Id.* at 21-22.

⁸⁹ *Id.* at 22.

⁹⁰ NCTA Comments at 29-30.

“offers substantially lower speeds and less robust assurances than fiber-based services.”⁹¹

Comcast also explained that EoHFC would “encounter significant capacity constraints if cable operators sought to carry high volumes of dedicated traffic via HFC facilities, given the predominant use of the HFC network to support MSOs’ mass-market offerings of video, broadband Internet access, and voice services.”⁹²

As Cox notes, the capacity and performance limitations of EoHFC are the result of HFC being a shared network whose capacity must be carefully managed to maximize the experience of all customers.⁹³ The consequence of this basic engineering fact, as noted by Cox, **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

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[END HIGHLY CONFIDENTIAL INFORMATION]⁹⁵

Comments submitted by CLECs re-confirmed that they do not view EoHFC as a substitute for TDM or fiber-based BDS. The Joint CLECs refute the Commission’s conclusion that cable companies will be able to provide BDS everywhere they have deployed HFC networks tied to Ethernet-enabled headends, stating that “this conclusion is contrary to the record evidence, which confirms that Ethernet-over-HFC is not a source of actual or sufficient potential

⁹¹ Comcast Comments at 5.

⁹² *Id.* at 5-6.

⁹³ Cox Comments at 9, 16-17.

⁹⁴ *Id.* at 9, 16-17.

⁹⁵ *Id.* at 14-16.

Business Data Services competition to constrain incumbent LEC prices.”⁹⁶ Reflecting the lack of requisite performance guarantees, Level 3’s declarant, Chris Reynolds, explains that EoHFC “services ‘are often subject to high levels of jitter and relatively low maximum transmission unit[s]’ and ‘are not as reliable as the cable companies’ Ethernet-over-fiber services or the dedicated services offered by incumbent LECs.”⁹⁷ Sprint too affirms that the performance specifications for EoHFC “are inconsistent with a wide array of business services” and notes that some cable operators offer performance objectives rather than credit-based guarantees.⁹⁸ According to Sprint, EoHFC should only be considered a BDS substitute if the cable company “actually offers an EoHFC service that meets the technical criteria for BDS.”⁹⁹

The record also makes abundantly clear that the limitations of EoHFC make it unsuitable for wireless backhaul generally and 5G wireless technology in particular. Wireless backhaul will require symmetrical speeds of at least 50 Mbps, along with robust performance guarantees, that EoHFC simply cannot meet and that only fiber can provide.¹⁰⁰ Wireless carriers are not even

⁹⁶ Joint CLEC Comments at 25. *See also* TDS Metrocom Comments at 15-16 (disputing that cable companies are able to supply BDS everywhere they have deployed DOCSIS 3.0).

⁹⁷ Joint CLEC Comments at 25. *See also* Windstream Comments at 17 (EoHFC can never be an alternative for symmetrical service above 50 Mbps).

⁹⁸ Comments of Sprint Corp., WC Docket No. 16-143, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 at 14 (June 28, 2016) (“Sprint Comments”).

⁹⁹ Sprint Comments at 14.

¹⁰⁰ *See e.g.*, Comcast Comments at 14 (“Comcast’s business experience has led the company to conclude that wireless carriers ultimately will insist on fiber-based [backhaul] services, given fiber’s superior performance attributes, reliability, and capacity.”); *id.* at 34-35 (“Comcast’s EoHFC service, like other dedicated HFC based services in the industry, is limited to 10x10 Mbps – far below the minimum symmetrical speeds of 50x50 Mbps that carriers require for backhaul applications today, let alone the much higher capacity that likely will be required to support 5G networks.”); Charter Comments at 13 (“HFC plant may not be well-suited for 5G wireless backhaul [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL INFORMATION]”); Cox Comments at 19 (“Cell site backhaul increasingly is a fiber-based product, which provides the requisite bandwidth and performance needed by wireless carriers.”);

seeking to use EoHFC today for backhaul. [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL INFORMATION]¹⁰¹ To provide sufficient capacity and quality, wireless backhaul will require fiber. Cable companies are in no better position to deploy fiber to cell sites than any other provider, including the wireless providers themselves, who are fully capable of deploying their own fiber or using fixed wireless backhaul technologies. Moreover, several parties note that wireless providers are increasingly turning to dark fiber solutions provided by companies such as Zayo, a trend that is expected to continue as wireless carriers deploy 5G.¹⁰²

Despite the clear factual record that cable operators' HFC plant should not be considered ubiquitous for BDS purposes, some incumbent carriers erroneously argue that cable companies are able to offer Ethernet services over HFC to virtually any location connected to a Metro

INCOMPAS Comments at 11-12 ("As wireless providers have stated, 5G networks 'will require ... an increase in dedicated wireline access, including access to large bandwidth Ethernet services of 100 Mbps or more.'"); Davis Declaration at 3 ("backhaul services require fiber construction").

¹⁰¹ Declaration of Jeffrey Finkelstein on Behalf of Cox Communications, Inc. at 9 ¶ 20 (dated June 27, 2016) (*attached to Cox Comments*).

¹⁰² See Comcast Comments at 6 ("Moreover, wireless carriers' increasing interest in leasing *dark fiber* – which would not even be subject to the FNPRM's rate regulation proposals – confirms that the demand for 5G backhaul capacity provide no basis for upending the enduring tenet that new entrants' rates should be free from government price controls.") (emphasis in original); Cox Comments at 13 ("Further pricing pressure is being created by the increased use of dark fiber providers, especially by wireless companies...."); Davis Declaration at 5 ¶ 17 ("[W]ireless providers have been seeking dark fiber for backhaul from their cell sites."); Declaration of David Williams on Behalf of CenturyLink at 1 ¶ 4 (dated June 28, 2016) (*attached to Mid Size ILEC Comments*) ("All the national wireless providers are moving to cell site architectures that typically rely on dark fiber, rather than lit services, and are seeking to migrate thousands of cell sites to dark fiber, for both economic and technical reasons. There is every indication this trend will continue for 5G services.").

Ethernet capable headend.¹⁰³ The Mid-Size ILECs, for instance, mistakenly claim that cable companies can provide “true” Ethernet services to “twenty-two times as many locations” as were originally reported in the 2013 data collection, and that cable providers, such as Cox, are offering Service Level Agreements with guaranteed repair intervals and service availability.¹⁰⁴ AT&T similarly argues that cable companies offer EoHFC with SLAs, and contends that such service therefore falls within the Commission’s proposed definition of BDS.¹⁰⁵

The assertions, however, conflate SLAs with performance guarantees. An SLA, as its name suggests, is simply an agreement to provide services at some level, which may or may not include performance guarantees. [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

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[END HIGHLY CONFIDENTIAL INFORMATION] Moreover, as noted above, actual sales of EoHFC have been extremely limited and can never be made widely available in light of inherent capacity constraints.¹⁰⁷

¹⁰³ See, e.g., Mid-Size ILEC Comments at 39. See also AT&T Comments at 13 (claiming competition analysis must account for “nearly ubiquitous” HFC facilities).

¹⁰⁴ Mid-Size ILEC Comments at 39-40.

¹⁰⁵ AT&T Comments at 15-16.

¹⁰⁶ Cox Comments at 15.

¹⁰⁷ [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL INFORMATION]
Comcast Comments at 5.

C. The Commission Should Reject Proposals to Impose Rate Regulation on All BDS Providers in a Market

Most CLECs seem to agree that regulation should apply to the single market leader that possesses market power. Other service providers, however, urge the Commission to impose regulation on some or all providers of BDS, regardless of their ability to exercise market power.¹⁰⁸ But no reasoned basis has been provided for taking such expansive action.

Verizon, for example argues that all providers must be subject to rate regulation because “a major cable operator, which is also a major supplier of Ethernet service” refused to sell Ethernet service to Verizon within Verizon’s ILEC franchise area and thus failed to comply with its common carrier obligation.¹⁰⁹ Verizon’s justifications lack any credibility. Even accepting Verizon’s version of the facts, this anecdote appears to have had nothing to do with the level of the rates being charged and provides no basis for amending the Commission’s rules to now regulate the rates of hundreds of competitive providers.

Moreover, the notion that competitive entrants should have an obligation to sell service to an incumbent LEC that has been serving an area with its own ubiquitous facilities for decades makes no sense. Typically, carriers prefer to serve customers using their own facilities and tend to rely on wholesale alternatives only when they cannot afford to build, which usually only occurs with low levels of demand. But Verizon is in a better position within its region to provide lower capacity services, such as DS1 or DS3 services, than virtually any other provider.

Moreover, regulating a competitive carrier’s rates for the benefit of the incumbent LEC would be

¹⁰⁸ TDS Metrocom also appears to suggest that all providers of Ethernet service should be required to post their standard wholesale rates to test compliance with Commission-established benchmarks. TDS Metrocom Comments at 22. TDS Metrocom, however, only discusses concerns with ILEC wholesale rates. *Id.* at 19-22. It is otherwise silent on which providers should be regulated in non-competitive areas.

¹⁰⁹ Comments of Verizon, WC Docket No. 16-143, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 at 17 (dated June 28, 2016) (“Verizon Comments”).

particularly damaging to investment incentives as any new entrant would be at risk of having newly constructed facilities appropriated by the incumbent provider through forced network sharing. As Drs. Katz and Keating explain, “a strong duty to deal weakens competition that would otherwise take place in terms of investments in supply capabilities and product improvements.”¹¹⁰

Furthermore, Verizon’s suggestion that cable companies might refuse to sell their Ethernet services to somehow gain a competitive advantage in the wireless market is hard to take seriously, particularly coming from the largest wireless provider in the country. Verizon’s complaint that it was refused wholesale access did not even appear to involve wireless backhaul¹¹¹ and the record is clear that cable companies are actively pursuing this business.¹¹² Finally there is no basis for Verizon’s suggestion that allowing some providers to act as private carriers while requiring others (*e.g.*, Verizon ILEC) to act as common carriers creates an un-level playing field.¹¹³ Verizon’s argument ignores that there always has been a well-founded distinction between the rights and obligations of common carriers and the rights and obligations of private carriers and that there is no basis on which the Commission can compel service to be provided on a common carrier basis absent a finding of market power and that the designation is in the public interest.

¹¹⁰ Katz/Keating Declaration at ¶ 19.

¹¹¹ Declaration of Daniel Higgins on Behalf of Verizon at ¶ 2 (*attached to Verizon Comments*) (“Higgins Declaration”) (noting that Verizon purchases BDS from other providers “to serve our retrieval customers”).

¹¹² Cox Comments at 10 (“Cox is eager to compete for this backhaul business and routinely responds to RFPs from wireless providers.”); Comcast Comments at 6 (“[A]s demand for backhaul capacity has grown in recent years and will continue to grow as the nation moves to 5G, Comcast and other cable providers have endeavored to deploy new *fiber* connections to support faster speeds and more robust reliability guarantees, and have begun expanding the BDS offerings they make available over those fiber connections in competition with ILEC services.”).

¹¹³ Verizon Comments at 18.

Verizon, of course, had far different views about forced sharing of networks before it become a net buyer. As it previously represented to the Commission:

CLECs want the Commission to favor providers who did not invest and allow them to piggy back off the investments of providers who did invest. . . . Competitive rivals should not now be able to reap the benefits of investments for which they did not assume any risks.¹¹⁴

Verizon fails to provide any convincing explanation for its recent change of heart.

Sprint too argues that all providers should be subject to regulation based on their purported status as common carriers, but it provides no meaningful basis on which the Commission could reach such a result.¹¹⁵ Sprint's comments are infused throughout with concern over abuse of market power.¹¹⁶ Following 90 pages of concern about market power, Sprint cavalierly asserts that all BDS providers nevertheless should be regulated, without regard to their ability to wield market power. Sprint's only proffered explanation is that BDS providers are common carriers and thus subject to section 201 and 202. This is wrong on at least two grounds. First, Sprint is wrong in asserting that all BDS providers are common carriers.¹¹⁷ Second, common carrier classification itself says nothing about the requisite level of regulation that should be applied. This was the very heart of the *Competitive Carrier* proceeding: A

¹¹⁴ Reply Comments of Verizon and Verizon Wireless, WC Docket 10-188 at 1-2 (filed Nov. 4, 2010).

¹¹⁵ Sprint Comments at 91-92.

¹¹⁶ See, e.g., Sprint Comments at vi (ILECs abuse market power in setting wholesale rates above retail rates); *id.* at 17 (ILECs hold "wide-ranging market power in the provision of [50 Mbps and below] services"); *id.* at 22-23 (2013 data "supports a finding of market power"); *id.* at 24-25 [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL INFORMATION]; *id.* at 41 (Commission must prevent exercise of market power over multi-location customers); *id.* at 44 (Commission failure to update price caps allows "incumbent LECs to exercise their market power"); *id.* at 53 (price caps LECs continue to exercise market power); *id.* at 63 (requiring price cap ILECs to publicly disclose rates, terms and conditions will "prevent price cap LECs from using their market power"); *id.* at 74 (tying wholesale to retail rates will prevent leveraging of market power); *id.* at 96 (Verizon exercises market power in the provision of BDS).

¹¹⁷ See section IV below for further discussion of this issue.

common carrier lacking market power is not now, and should never be, subject to the same degree of regulation as a common carrier with market power.¹¹⁸

The Mid-Size ILECs also propose regulating all providers, although they urge a much more limited regulatory approach than Verizon and Sprint. Their primary argument for regulating all providers, however, is no more sensible than that posited by Verizon or Sprint. The Mid-Size ILECs claim that it would be unlawful and contrary to the public interest to regulate similarly situated companies differently.¹¹⁹ The fallacy of their argument lies in the assumption that all BDS providers are similarly situated. To the contrary, cable companies, lack market power, as demonstrated above.¹²⁰ In markets where the incumbent LEC, on the other hand, continues to possess and exercise market power, regulating the dominant provider while eschewing rate regulation of competitive entrants has been the hallmark of the Commission's regulatory approach for more than 30 years.¹²¹ As explained at length in these comments and

¹¹⁸ Public Knowledge suggests that multiple providers should be regulated, but only to the extent that the Commission concludes that they "can exercise market power," that is, the power "to control price." Public Interest Comments at 5, 8. Public Knowledge, however, fails to identify any carrier other than incumbent LECs that have such power. *See id.* at 8 (Arguing that shift from TDM to Ethernet does not "eliminate incumbent LECs' market power in the provision of BDS."). Nor does it proffer any basis to assume any carriers other than potentially the incumbent LEC have market power. And if the Commission were to conclude that cable operators and ILECs were similarly situated in markets where they compete, the appropriate policy response would be to deregulate both sets of companies.

¹¹⁹ Mid-Size ILEC Comments at 66-69.

¹²⁰ The Mid-Size ILECs argue at some length that the cable companies' provision of best efforts and Ethernet over HFC should be counted as providing substantial competition to incumbent LEC BDS. Mid-Size ILEC Comments at 38-44. That claim has been thoroughly refuted, as explained above, and the existence of HFC-based best efforts or Ethernet services provide no grounds for asserting that incumbent LECs and cable companies should be regarded as "similarly-situated" in the BDS market.

¹²¹ *See Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor*, Further Notice of Proposed Rulemaking, 84 FCC 2d 445 ¶ 36 (1981) ("*Competitive Carrier FNPRM*"); *Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier*, Order, 11 FCC Rcd 3271, 3274 ¶ 3 (1995) (The Commission has consistently

others, regulating all providers without regard to their position in the market would impose substantial costs with no countervailing benefits.¹²²

Tellingly, there is not a single economic analysis proffered by any party to support regulation of cable companies or any competitive provider. The pricing and competition analysis performed by Professor Rysman focused solely on the extent to which competitive entry may or may not have led to lower *incumbent LEC* pricing for TDM DS1 and DS3 services.¹²³ There was no analysis of other carriers' prices or whether they have market power. The only reasonable interpretation of the data as it relates to non-incumbent LEC providers is that they are offering services at prices lower than the incumbent LEC and that this competition is driving prices down, at least according to Professor Rysman.

Imposing rate regulation on cable providers or any competitive provider on this record would be the height of arbitrary and capricious rulemaking as there would be no rational basis to conclude that they are imposing unjust or unreasonable rates.¹²⁴ Moreover, regulation of all providers would be tantamount to imposing market-wide price controls, which, as pointed out in

sought to “reduce or eliminate the application of economic regulation of new competitive entrants, since such entrants would improve market performance.”); *id.* at 3274 ¶ 4 (stating “non-dominant carriers could not charge rates or engage in practices that contravene the requirements of the Communications Act . . .”).

¹²² See Comcast Comments at 27-54; Charter Comments at 8-11; ACA Comments at 39-41.

¹²³ See AT&T Comments at 18. As described above, the record here also does not support a finding from which the Commission could either conclude that cable companies and other new entrants are charging unjust and unreasonable rates, or by which it could prescribe a rate even it could make such a finding.

¹²⁴ Verizon, which proposes regulation on all providers regardless of any indicia of market power, proffers the oxymoron of “light-touch price regulation” for packet-based services. Verizon Comments at 4. There is nothing “light-touch” about Verizon’s proposal to establish complicated price benchmarks that would somehow take into account variables such as “speed, term length, and class of service” applied across a patchwork of census blocks and then be subject to annual adjustment based on “either a measure of improved efficiency, or based on findings of rate changes in competitive markets.” Verizon Comments at 4.

the Declaration of Dr. John Mayo, have repeatedly led to economic harm, gross market distortions and massive underinvestment.¹²⁵

D. The CLEC/Verizon Proposed Criteria for Identifying Non-Competitive Products and Markets Are Woefully Overbroad

Several CLECs have proposed a tiered regulatory approach that would impose regulation in all areas for any BDS (Ethernet or TDM) at or below 100 Mbps¹²⁶ or 50 Mbps,¹²⁷ depending on the specific proposal. They additionally propose to regulate so-called mid-level bandwidths, capacity between those “low-bandwidth” thresholds and up to and including 1 Gbps, based on the application of a competitive market test requiring the actual presence of four providers within a census block (or within a building). The proposed tests would result in regulation of BDS up to 1 Gbps in virtually every census block with BDS demand, a result totally at odds with the Commission’s finding that “competitive entry and potential competition are bringing material competitive benefits to some places and to some products (most notably high bandwidth services.”)¹²⁸ The Commission should reject these criteria as they would apply regulation where it is not needed and create extraordinary administrative burdens.

1. The Bandwidth Thresholds are Unnecessarily High

A number of CLECs contend that their purported inability to deploy economically their networks to serve low bandwidth customers requires rate regulation of all BDS at or below 50 Mbps or 100 Mbps. Neither level is reasonably justifiable. Despite CLECs’ claims that they cannot feasibly deploy network facilities at those low bandwidths, the 2013 data, as AT&T

¹²⁵ Mayo Declaration at ¶¶ 82-85. The lessons drawn from market-wide application of regulation include “create[ing] less supply and innovation from competitive price-regulated firms” and harming consumers by “reducing supply, innovation and consumer choice and competition.” *Id.* at ¶ 85.

¹²⁶ See Joint CLEC Comments at 46-47; Windstream Comments at 32.

¹²⁷ See Sprint Comments at 15-16; Verizon Comments at 3.

¹²⁸ *Further Notice* at 3 ¶ 3.

points out, “show that well over half of the buildings served by CLECs have bandwidths equal to 45 Mbps or less.”¹²⁹ Other providers have noted that they are able to build out to locations to serve low bandwidth customers. [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL INFORMATION].¹³⁰

Moreover, evidence of market power at these lower bandwidths is lacking. As noted above, Ethernet price declines are occurring as aggressively at lower bandwidths as they are for higher bandwidth services. Professor Rysman’s analysis also found no evidence of market power above 50 Mbps, indicating no basis to regulate bandwidth between 50 Mbps to 100 Mbps, and his purported evidence for market power for the even lowest bandwidth service, DS1 services, is weak. The incumbent LECs point out that his regression analysis shows a mere 3.2 percent price decline for DS1 services in locations with competitive providers.¹³¹ Even assuming that Professor Rysman’s regression analysis utilizing the 2013 data has validity, this is an extraordinarily small effect upon which to assess expansive regulatory requirements on a nationwide basis.¹³² Moreover, both Professor Rysman and the Commission staff found that

¹²⁹ AT&T Comments at 26.

¹³⁰ Shelton Declaration at 4 ¶ 7.

¹³¹ See, e.g., AT&T Comments at 3-4. AT&T further provides a regression analysis by its economists showing “that ILEC prices for packet based services do not decline in response to competition (indeed, the results show that competitive Ethernet entry causes price *increases*).” (emphasis in original).

¹³² The Katz/Keating Declaration highlights several key flaws in the econometric studies purporting to demonstrate that price declines in markets with larger numbers of competitors

potential competition has a significant effect on DS1 and DS3 pricing.¹³³ Professor Rysman also performed no analysis of 45 Mbps or less packet-based services, whereas Drs. Mark Israel, Daniel Rubinfeld and Glenn Woroch, working on behalf of AT&T, applied Professor Rysman's methodology to data on packet-based services offering 45 Mbps or less and found no evidence of market power, as noted in the Katz/Keating Declaration.¹³⁴

2. There Is No Sound Reason to Regulate Mid-Range BDS.

Regulatory proponents would also impose regulation on BDS up to and including 1 Gbps in non-competitive areas. The next section explains that the tests being proposed to identify the non-competitive areas for these mid-bandwidth services (between 50 Mbps or 100 Mbps to 1 Gbps) would result in virtually all markets being deemed non-competitive. Apart from that problem, the CLECs proffer no sound evidence that mid-range bandwidth BDS requires regulation, certainly no evidence sufficient to overcome the costs such sweeping regulation would impose. The CLECs point to econometric studies by Professor Baker and Drs. Zarakas and Verlinda that purport to show that prices for mid-bandwidth BDS decline with increasing numbers of competitors.¹³⁵ Drs. Katz and Keating demonstrate that their analysis in fact reveals no consistent pattern of price declines correlated to competitive entry.¹³⁶

reflect market power. They note, for example, that no study has actually demonstrated that declining prices were caused by more competitors due to the very serious problem of "unobserved heterogeneity." *Id.* at ¶¶ 37-40.

¹³³ Katz/Keating Declaration at ¶ 69.

¹³⁴ *Id.* at ¶ 44. Drs. Katz and Keating also explain that the econometric studies provide no support for imposing rate regulation on non-ILECs such as cable companies. *Id.*

¹³⁵ See Declaration of William P. Zarakas and Jeremy A. Verlinda on Behalf of Sprint Corporation at ¶ 23 (dated June 28, 2016); Declaration of Jonathan Baker on Behalf of Level 3 Communications, LLC, Windstream Services, LLC, and XO Communications, LLC at Tables 2 and 3 (dated Jan. 27, 2016); *Baker Declaration*, Tables 2 and 3; Declaration of Jonathan Baker on Behalf of Level 3 Communications, LLC at ¶ 3 (dated June 28, 2016).

¹³⁶ Katz/Keating Declaration at ¶ 42-43.

3. The Proposed Competitive Market Test Criteria Would Lead to Regulation Virtually Everywhere.

The CLECs propose to regulate all BDS between 50 Mbps or 100 Mbps up to and including 1 Gbps in any market deemed non-competitive based on their criteria. Those criteria, however, would result in regulation in virtually every area with BDS demand and create an administrative nightmare as firms attempt to conform billing and marketing platforms to highly granular market boundaries that have no correlation whatsoever to business imperatives, customer need, or network deployment. Regulation advocates urge the Commission to define the geographic market as either building specific or by census block.¹³⁷ Fortunately, the Commission has already recognized that building-by-building regulatory determinations may be unworkable.¹³⁸ While some commenters continue to press for a building-centric approach, others have realized that such an analysis would be unrealistic.¹³⁹ Their alternative proposal to utilize census blocks, however, is hardly an improvement.

Census blocks, as has been pointed out, are extremely small areas. For example, the median size of all MSA census blocks where providers reported a BDS location in the 2013 data is 0.02 square miles and two thirds of census blocks with special access demand in MSAs contain a single building.¹⁴⁰ Thus, in most instances, a census block is no different than a building-by-building approach. Given that providers reported BDS locations in nearly 650,000

¹³⁷ Comments of Competitive Carriers Association, WC Docket No. 16-143, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593 at 4 (dated June 28, 2016); INCOMPAS Comments at 7; Windstream Comments at 7.

¹³⁸ *Further Notice* at 123 ¶ 289.

¹³⁹ *See, e.g.*, Windstream Comments at 7; Sprint Comments at 7.

¹⁴⁰ Letter from Christopher T. Shenk, Counsel for AT&T, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-25, RM-10593 at 3 (April 20, 2016) (*attaching* Second Supplemental Declaration of Mark Israel, Daniel Rubinfeld, and Glenn Woroeh. Professor Rysman identifies the median block as being 0.026 square miles. Dr. Marc Rysman, *Empirics of Business Data*

census blocks, the number of potential unique geographic markets is staggering.¹⁴¹ This compares to approximately 74,000 total census tracts and about 381 MSAs, which are other geographic markets that have been used or discussed.¹⁴²

It is not a surprise that companies with experience using census blocks during the Connect America Fund challenge process are uniformly opposed to a similar level of granularity here, while all of the proponents of census blocks (or buildings, which in many cases amounts to the same thing) have no real world experience dealing with regulation at such a granular level. As described by Drs. Katz and Keating and others, getting rate regulation right is challenging in general and would be particularly challenging given the qualities of the BDS marketplace.¹⁴³ The notion that the Commission not only could overcome these significant challenges, but also do so uniformly for hundreds of thousands of census blocks, is pure folly.

The use of census blocks as the relevant geographic market creates further difficulties if applied outside of the urban areas that have dense business locations. In suburban or more rural areas, where business locations are more dispersed, the use of census blocks would create a huge number of single customer/single supplier markets. An analysis of the 2013 data shows that more than half – 52 percent or 260,681 – of the 498,577 census blocks with one billing customer contain only that one customer.¹⁴⁴ In fact, fewer than 30 percent of census blocks had 3 or more

Services at 219 (Apr. 2016), *attached as* Appendix B of the *Further Notice* (“Rysman White Paper”).

¹⁴¹ Rysman White Paper at 213. Of course, this is just a small percentage of the more than 11 million census blocks in the U.S. *Id.* at 213.

¹⁴² AT&T Comments at 39.

¹⁴³ Katz/Keating Declaration at ¶ 22.

¹⁴⁴ *Id.* at n. 144. Midcontinent, a cable company serving primarily rural areas North and South Dakota, reports that about [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL INFORMATION]. Anderson Declaration at ¶ 4.

customers.¹⁴⁵ Using a four-provider test would thus mean that a substantial majority of census blocks would fail simply because there are not enough customers in the block.

Moreover, coupling census block markets with the concept of regulating the market leader, the current provider serving those one or two customers in a block would become subject to regulation, notwithstanding the availability of nearby competitors that are willing and able to provide service and the lack of any evidence that the price charged by that provider for that customer is unjust and unreasonable in light of the challenges of serving that customer.

Imposing rate regulation on a provider in that circumstance would be arbitrary and capricious. Additionally, investment decisions under these circumstances would be completely distorted. For example, carriers likely would be reluctant to expand into census blocks for fear that they would become subject to price regulation simply to serve a single new customer. This would undermine the Commission's important efforts to expand high capacity connectivity to rural areas. The only sensible course for the Commission would be to exclude from the regulatory framework those geographic markets (however defined) that contain *de minimis* BDS demand.

The adverse consequences associated with using such highly granular geographic boundaries are compounded by requiring multiple providers to render a market competitive. The combination of extremely small geographic markets and requiring multiple providers would result in the vast majority of census blocks being deemed non-competitive and hence subject to regulation. The CLECs have proposed a competition test that would require the actual presence of four BDS providers in any census block, three competitors plus the incumbent LEC in most instances, assuming the incumbent LEC is present virtually everywhere.¹⁴⁶ The CLECs would

¹⁴⁵ Katz/Keating Declaration at ¶ 87.

¹⁴⁶ Joint CLEC Comments at 43-45.

count a provider as being present only if it actually serves a customer in that census block.¹⁴⁷

Although CLECs have not indicated how many census blocks they believe would be deemed non-competitive using this criteria, Professor Rysman reports that only 0.58 percent of census blocks had an ILEC plus 3 other providers.¹⁴⁸ If Professor Rysman's analysis is accurate, then nearly 99 percent of census blocks would fail the competitive standard. Regulation would be equally, if not more, widespread if individual locations were used as the geographic market. The 2013 data purport to show that only about 0.2 percent of all buildings with BDS demand were served by four or more competitors, and that 99 percent of buildings either had just one or two competitors.¹⁴⁹ Thus, whether buildings or census blocks are used, the vast majority of areas with BDS demand would be deemed non-competitive.

The record provides no basis for such a draconian result. Presumably, the rationale for selecting four providers relates to the econometric studies showing price effects with different numbers of competitors. But, as Drs. Katz and Keating conclude, "the econometric analyses in the record cannot provide a reliable basis for determining such a threshold."¹⁵⁰ They cite two reasons: (1) the various econometric studies "have not identified a reliable competitive baseline against which to compare actual market performance" and (2) "even if such a baseline were established, the size of the competitive effects associated with each incremental competitor matters for this determination, and the econometric studies in the record simply do not provide reliable estimates of these magnitudes."¹⁵¹ In other words, the record provides no reasoned basis

¹⁴⁷ *Id.* at 49. These CLECs have diverged from Verizon, which proposes only that four providers have fiber facilities in the census block. *Id.* at 53.

¹⁴⁸ Rysman White Paper at 214.

¹⁴⁹ Joint CLEC Comments at 40.

¹⁵⁰ Katz/Keating Declaration at ¶ 54.

¹⁵¹ *Id.* at ¶ 54.

to determine the size of the incremental effect on prices of a second, third, or fourth provider, as even the CLECs' economists concede, or whether any incremental price reduction potentially resulting from the presence of an additional competitor outweighs the expansion of regulation and its attendant costs that requiring the presence of that additional competitor would produce.¹⁵²

Moreover, while the size of incremental effects may not be determinable from the econometric studies, it is clear that a first or second competitor has a price effect, which may in fact be substantial in some cases. As Sprint explains, "the presence of one or two competitors in addition to the incumbent has the most significant impact on price."¹⁵³ **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

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Indeed, even Sprint's expert economist concedes that fewer than four providers may be sufficient to achieve prices that reflect the elimination of any market power.¹⁵⁶ Level 3, as noted above, represents that it must offer prices well below its list prices because incumbent LECs counteroffer with lower prices of their own, confirming that competition from a single provider

¹⁵² *Id.* at ¶¶ 54-58.

¹⁵³ Sprint Comments at 29.

¹⁵⁴ *Id.* at 29-30.

¹⁵⁵ Katz/Keating Declaration at ¶ 76.

¹⁵⁶ Declaration of John Kwoka on Behalf of Sprint Corporation at 17 ¶ 47 (*attached to Sprint Comments*).

can have a substantial price constraining affect.¹⁵⁷ Requiring four or more competitors before declaring a market competitive would wholly ignore the constraining price effects of the second or third provider.¹⁵⁸

The combination of using census blocks as the relevant geographic market and a four-provider test would lead to the very result – “regulating in far more areas than necessary” -- that regulatory proponents claim they seek to avoid.¹⁵⁹

4. The Commission Should Take into Account Providers Using UNEs in the Competitive Market Test

The Commission should reject requests by the CLECs to exclude UNE-based providers when assessing the number of competitors in a market. The CLECs provide no reasoned basis to exclude UNE-based providers, and doing so would run counter to the very reason that the 1996 Act and the Commission rules that require incumbent LECs to make UNEs available in the first place. UNEs are designed to enable facilities-based competition, and DS1 and DS3 UNEs specifically enable competition for BDS services in locations where self-deployment by CLECs may be uneconomical.¹⁶⁰

Moreover, exclusion of UNE-based BDS would unreasonably ignore a substantial segment of competition. Dr. Rysman reports that competitive providers service 47 percent of their locations using UNEs.¹⁶¹ It would be incongruous to ignore this substantial competition by

¹⁵⁷ Level 3 July 25th Ex Parte at 2.

¹⁵⁸ Drs. Katz and Keating further point out the lack of any robust evidence from the econometric studies of statistically significant price effects of a fourth competitor. Katz/Keating Declaration at ¶¶ 54-59.

¹⁵⁹ Verizon Comments at 12.

¹⁶⁰ See Mid-Size ILEC Comments at 45-48; *Review of Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order on Remand, 20 FCC Rcd 2533, 2562-2563 ¶¶ 51-52 (2005) (“*TRRO*”).

¹⁶¹ Rysman White Paper at 209. (Of the 522,000 buildings competitive providers reported serving in the 2013 data collection, 245,000 or 47 percent were served with UNEs).

CLECs using the very facilities the Commission has made available to promote facilities-based competition in this market.¹⁶²

Finally, there is no reason to believe that UNE-based competition has any less of a constraining effect on ILEC BDS pricing than any other form of competitive entry.¹⁶³ Unlike tariffed BDS services, UNEs must be made available at TELRIC-based prices set at levels to facilitate competitive entry and they may be purchased on a month-to-month basis. UNE rates are set well below incumbent LEC BDS tariffed rates precisely to enable such competition. In other words, incumbent LECs cannot exercise market power over UNE rates and availability. Carriers purchase DS1 and DS3 UNEs to provide a competitive alternative to lower bandwidth incumbent LEC BDS, and they clearly should be counted in assessing the number of competitive providers in a market.

5. The FCC Cannot Ignore Potential Competition and Must Give Real Meaning to the Term

Some parties urge the Commission to disregard potential competition when assessing how many providers are in a market because of the agency's purportedly poor track record in predicting when and where competition will actually emerge.¹⁶⁴ As pointed out in NCTA's initial comments, however, the Commission cannot lawfully ignore potential competition.¹⁶⁵ Indeed,

¹⁶² That the Commission included connections to locations served by UNEs in the 2013 data collection (while excluding leased BDS) demonstrates the Commission believes that UNEs are important source of competition.

¹⁶³ *TRRO*, 20 FCC Rcd at 2574-2575 (stating that "the record indicates that the availability of UNEs is itself a check on special access pricing").

¹⁶⁴ *See, e.g.*, Public Interest Comments at 8-9. Curiously, many of the same parties that belittle the Commission's predictive judgment with respect to competitive developments seem to have no problem with the Commission predicting continued increases in productivity sufficient to warrant significant annual rate reductions even though the agency has far less expertise and experience in monitoring productivity than it does monitoring competition.

¹⁶⁵ *See* NCTA Comments at 69-71.

Verizon and most CLECs recognize that the Commission must take potential competition into account.¹⁶⁶

Their conception of potential competition, however, is far too restrictive and at bottom would ignore the availability of competitive services by limiting factual findings to actual competition. Most CLECs argue that a provider with nearby fiber should not count as a BDS provider in the market,¹⁶⁷ despite Professor Rysman's findings that nearby fiber constrains prices.¹⁶⁸ Instead, they argue that, to be counted as present in a census block, the provider must actually be serving a customer in that block. Only at this point should that carrier be deemed potentially capable of providing BDS to other locations in the census block. In reality, however, this measure understates potential competition because it fails to account for future expansion of fiber and the construction of additional splice points by existing providers and for the ability of other carriers to enter the market. A reasonable assessment of competition at a minimum requires consideration of all nearby fiber, not just the extent of actual connections.

The CLEC proposal also fails to take into account that BDS prices are often set via a bidding process, which has at least two important economic implications. The first is that potential entrants can influence market outcomes simply by the threat that they would build out if they win the bid.¹⁶⁹ Sophisticated buyers do not simply take bids from those already connected to their locations, they solicit broadly in hopes of encouraging network expansion to their locations. The second implication is that markets can be competitive with a small number

¹⁶⁶ See, e.g., Verizon Comments at 7.

¹⁶⁷ See, e.g., Sprint Comments at 9; INCOMPAS Comments at 8.

¹⁶⁸ See, e.g., *Further Notice* at 123 ¶ 288 (“[T]he regressions show some effects for the presence of competitive fiber in the census block, even if that fiber is not connected to any buildings in the block.”); Rysman White Paper at 227, Table 16.

¹⁶⁹ Katz/Keating Declaration at ¶ 33.

of providers in large part because “once a network build-out occurs, most of the costs are sunk and the incremental cost of service is low.”¹⁷⁰

Apart from their failure to acknowledge the price constraining effects of potential competition, the CLECs do not proffer a sound basis for requiring a provider to actually be serving a customer. They claim that actual provision of service to existing customers must be used because new construction can be provided only from fiber splice points and that there is no data on where providers have such points. Thus, they assert, the Commission would have no way of knowing the distance any particular CLEC would have to travel to reach a location.¹⁷¹ That fiber may be hundreds of feet away as it passes through or near a census block is irrelevant, they claim, if the nearest splice point is thousands of feet away.

Put differently, in the absence of definitive evidence regarding where new construction is feasible and where it is not, the CLECs urge the Commission to make the counterfactual assumption that no construction is ever feasible. That approach cannot be right. For one, even if the Commission does not have data on the location of every splice point, it can take into account typical fiber deployment in which splice points are placed very close together. Moreover the access points to fiber differ based on the area. In dense downtown areas, splice points are accessed through manholes or other specific access points, which are ubiquitous. In less urban areas, conduit is readily accessible through minor excavation and carriers typically will deploy splice points and slack fiber very close together. Aerial fiber is even more accessible. Finally, existing splice points are not fixed for all time. ACA points out that as fiber is extended to

¹⁷⁰ *Id.*

¹⁷¹ INCOMPAS Comments at 8; Joint CLEC Comments at 7-8; Windstream Comments at 30.

additional locations, additional splice points can be constructed to enable further expansion.¹⁷²

Indeed it would be foolish not to utilize new construction opportunities to create more points of interconnection to serve additional customers. In short, lack of data on the exact location of current splice points is a strawman argument for seeking to ignore potential competition.

E. The Regulatory Framework Should Reflect the Challenges that Exist in Rural Areas and the Benefits that Competitors Are Delivering to these Areas

In devising rules for BDS, the Commission must recognize the specific challenges facing providers in rural areas, the benefits that come from competition in those areas, and the impact that new rate regulation would have on rural BDS competition. As NCTA explained in its initial comments, any policies that impose new costs and artificially constrain BDS revenues in rural areas will impose significant deterrents to new investment, and ultimately will restrain the development of competition in these markets.¹⁷³

The Commission has long recognized the importance of bringing high-capacity services to rural areas.¹⁷⁴ While its focus has been on ensuring that rural customers have access to service from at least one provider, rural communities frequently benefit just as much as the dense urban core from the presence of even one competitor. In many rural areas, the presence of just two providers is sufficient to create intense competition and rivalry, particularly for wireless backhaul contracts where the cable company and the incumbent LEC engage in rigorous bidding

¹⁷² ACA notes that providers can take advantage of the opportunity to extend fiber by including additional fiber strands and constructing additional splice point in order to take advantage of potential opportunities along the route. ACA Comments at 29.

¹⁷³ NCTA Comments at 81-83.

¹⁷⁴ Moreover, the presence of competition from even a single facilities-based competitor not only delivers substantial benefits to business customers, but it also reduces the need for universal service subsidies, allowing those subsidies to be redirect to non-competitive areas or eliminated entirely. *See, e.g., Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) (redirecting high cost fund to support broadband in high cost markets).

in response to RFPs. Given the vast expanses and sparse populations of rural markets, it is economically unrealistic to expect widespread entry by multiple providers and any competitive test requiring the presence of three or four or more providers will perpetually, and inappropriately, relegate many rural areas to non-competitive status notwithstanding the presence of price-reducing competition.

The attached declaration by Scott Anderson on behalf of Midcontinent Communications (“Midco”) confirms these concerns. Midco is a primarily rural cable company that serves North and South Dakota. Of the 199 communities it serves in those states, only five have a population over 50,000 and only eight have a population above 25,000.¹⁷⁵ Midco faces “real competition” in each of these communities, including from a local LEC that “vigorously defends its market position and actively pursues BDS customers.”¹⁷⁶ There are at least two providers vying for BDS customers in each of those communities and the competition is driving down prices. Midco notes that [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL INFORMATION].¹⁷⁷

Notwithstanding the reality of vigorous competition for BDS that Midco experiences in its areas, the four provider per census block test advocated by regulatory proponents would result in [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL

¹⁷⁵ Anderson Declaration at ¶ 2.

¹⁷⁶ *Id.* at ¶ 6.

¹⁷⁷ *Id.* Like more urban areas, rural BDS markets are also bidding markets in which multiple providers compete for business. Midco has been successful in obtaining this business [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] of the time. *Id.*

INFORMATION]¹⁷⁸ Even a three provider per census block test would result in [BEGIN
HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL
INFORMATION]¹⁷⁹

Further, and equally important, the Commission has acknowledged that companies will deploy advanced facilities in rural areas only if the resulting revenues will justify the investment.¹⁸⁰ Given the high costs in rural areas, it is not unusual for carriers to pass along construction costs directly through initial non-recurring charges, rather than through monthly pricing. Effectively, customers make a capital contribution to the project through these initial charges. Driving monthly recurring BDS prices lower would require increased contributions from customers, potentially further reducing investment.¹⁸¹

The proposed regulations also ignore that, in the absence of regulation, cable operators have made substantial investments to bring competitive BDS to rural areas. For instance, as previously noted, Mediacom has invested more than \$4 billion on its high capacity network, deploying 600,000 strand miles of fiber backbone in its operating territory to serve “thousands of small communities in . . . rural and exurban areas[.]”¹⁸² Mediacom has focused on areas with

¹⁷⁸ Anderson Declaration at ¶ 4.

¹⁷⁹ *Connect America Fund*, 26 FCC Rcd. at 17701 ¶ 103 (setting eligibility rules to make subsidies available only where there is no competition).

¹⁸⁰ *Connect America Fund*, Report and Order, Order and Order on Reconsideration, and Further Notice of Proposed Rulemaking, 31 FCC Rcd 3087, 3111 ¶ 59 (2016). *See also* Anderson Declaration at ¶ 8 (describing process to determine whether revenues will be sufficient to provide a minimum internal rate of return in light of often high construction costs in rural markets).

¹⁸¹ A shift to requiring larger upfront payments could have significant consequences with respect to schools and libraries that receive E-rate support. *Modernizing the E-rate Program for Schools and Libraries*, Second Report and Order and Order on Reconsideration, 29 FCC Rcd 15538, 15545- 48 (2014).

¹⁸² Mediacom Comments at 2.

“low population density and low per-capita average incomes.”¹⁸³ Mediacom’s investment in these markets has demonstrated that entry can be profitable and, in turn, has attracted “other providers competing to serve the customers” in every market where it is providing BDS.¹⁸⁴

The ACA also noted that many of its members provide service in rural areas, explaining that “smaller providers are sinking a tremendous amount into network expansion and upgrades, in some cases multiples of BDS revenue.”¹⁸⁵ ACA estimates that its members are spending “upwards of \$300 million annually to deploy facilities to support the provision of BDS.”¹⁸⁶ ACA members have been experiencing decreasing prices across all of their markets, urban and rural, in large part due to competition, and in some cases, prices have dropped by 70 to 75 percent over a five year period.¹⁸⁷

The same comments, and comments of other rural providers, also demonstrate that mandated price reductions will have a significant impact on investment incentives and future deployment. Consistent with NCTA’s comments, ACA notes that “[s]hould payback periods be lengthened, such as because of rate regulation, smaller providers would be more reluctant to invest to expand or upgrade facilities supporting BDS, especially because proceeding may harm their credit rating or result in the breach of lending covenants.”¹⁸⁸ Mediacom explains that the deployment cost “in small to mid-sized markets is greater than in larger markets because the distance between network locations tends to be greater than in fiber markets,” and that areas with lower business density have “fewer potential customers, and fewer opportunities to earn a return

¹⁸³ *Id.* at 3.

¹⁸⁴ *Id.* at 4.

¹⁸⁵ ACA Comments at 29.

¹⁸⁶ *Id.* at 29.

¹⁸⁷ *Id.* at 36.

¹⁸⁸ *Id.* at 33-34.

on network investment.”¹⁸⁹ As a consequence, new regulation that reduced rates “would be more likely to reduce competition and force competitors like Mediacom to consider whether further investment in these [rural] markets is sustainable.”¹⁹⁰ Along these same lines, Midco explains that “rate regulation may limit our ability to generate revenue to justify further plant expansion.”¹⁹¹

Noncable company commenters agree with this analysis. The Mid-Size ILECs noted that rural areas “pos[e] inherent challenges for infrastructure development,” due to the cost of deployment.¹⁹² As a result, they conclude that the Commission should “account for the relative cost to serve non-competitive areas” to avoid setting prices too low and “degrading already-challenging deployment incentives, hindering rather than helping deployment and eliminating the incentives necessary to complete the IP transition.”¹⁹³

Given these potential impacts, it is imperative for the Commission to apply, at most, a light touch in rural areas. The higher costs and narrower margins faced by rural BDS providers make it especially important for the Commission to avoid applying across-the-board rate cuts to rural BDS. For similar reasons, the Commission should seek to reduce the administrative burdens of any regulatory regime or any future data collections as applied to BDS providers in rural areas. Otherwise, the Commission risks setbacks in expanding the availability of high-capacity services in those markets.

¹⁸⁹ Mediacom Comments at 10.

¹⁹⁰ *Id.* at 11.

¹⁹¹ Anderson Declaration at ¶ 10.

¹⁹² Mid-Size ILEC Coalition Comments at 77.

¹⁹³ *Id.* at 77.

IV. The Record Contains No Evidence That Cable Operators Offer BDS on a Common Carrier Basis

NCTA's initial comments noted that the characteristics of BDS – including customization, negotiation and customer-specific contracts – “are typical of private carriage, not common carriage[.]”¹⁹⁴ The comments confirm that cable operators, in particular, generally offer BDS on terms and conditions that are consistent with private carriage and not common carriage. None of the comments arguing for common carrier status for all BDS address the nature of cable BDS offerings or even engage the question of whether BDS should be treated as a common carrier service. There is, therefore, no basis for a blanket determination that BDS is a common carrier service.¹⁹⁵

First, review of the comments of cable operators confirms that they typically offer BDS on a private carrier basis. The facts are quite clear on this point:

- Charter “enters into individualized negotiations with potential BDS customers” and “makes individualized determinations regarding whether and on what terms it will provide BDS.” It noted that “[f]or enterprise customers in particular, service relationships are individually tailored, and it is not infrequent that negotiations over these terms fall apart because they are unacceptable to one party or the other,” and that enterprise customers “often submit detailed requests for proposals to address their individualized needs.”¹⁹⁶
- Comcast explained that its “[c]ell backhaul agreements are individually negotiated with each of Comcast’s customers” and “contain highly individualized terms and prices that differ significantly from customer to customer and from agreement to agreement.” Comcast’s E-Access/NNI service “is available only to a limited number of carriers with which Comcast chooses to create a network-to-network interface” and “contract pricing and terms are highly individualized for each NNI counterparty.” Comcast similarly “must make an initial determination” as to whether to invest “to extend facilities to a

¹⁹⁴ NCTA Comments at 11.

¹⁹⁵ In addition, as explained in NCTA’s comments, the *Further Notice* did not provide sufficient notice that the Commission was considering how BDS should be classified or any explanation for its statement that BDS is common carriage. In the absence of full and adequate notice that it will consider the classification of BDS, the Commission cannot act to impose common carrier regulation on BDS providers. *Id.* at 15.

¹⁹⁶ Charter Comments at 18.

potential customer,” when providing EDI or Ethernet transport, and such “contracts generally are individually negotiated, with rates and other terms dependent on term, volume, and total commitment – which are themselves frequently subject to negotiation and adjustment from customer to customer.”¹⁹⁷

- Cox notes that much of its service is provided in response to individual RFPs, which require customized responses.¹⁹⁸
- Mediacom serves new customers “only after making individualized decisions of whether to serve a new location and at what price.” It notes that “[p]ricing for specific services are individually determined for projects in order to ensure a reasonable return on investment[.]”¹⁹⁹

CLEC commenters also describe their services and decision-making processes in private carriage terms:

- The Joint CLECs explain that Level 3’s decisions as to whether to serve new customers are made based on the economics of serving individual customers and buildings.²⁰⁰
- Windstream notes that construction costs can vary widely depending on where fiber and access points are located relative to a customer location and whether one or multiple customers will be served.²⁰¹

All of these comments describe BDS in terms that are consistent only with private carriage status. Commission and D.C. Court precedent confirm that services offered on a customized, individually negotiated basis, where providers pick and choose their customers, are private carriage, and are not subject to the common carrier requirements of the Communications

¹⁹⁷ Comcast Comments at 15-17.

¹⁹⁸ Cox Comments at 21.

¹⁹⁹ Mediacom Comments at 3 n.3, 7.

²⁰⁰ Joint CLEC Comments at 23-24; Declaration of John Merriman on Behalf of Level 3 Communications, LLC at 4-5 ¶ 4-6 (*attached to* Joint CLEC Comments) (describing process used by Level 3 to decide whether to serve a customer in a building that does not already have a connection to the Level 3 network).

²⁰¹ Windstream Comments at 31.

Act.²⁰² Further, the Commission lacks the authority to apply common carrier regulation to private carriers.²⁰³

The comments provide no support for the conclusion that BDS offered on an individualized basis should – or can – be treated as a common carrier service. Most of the parties asking for regulation of competitive BDS simply assume it is a common carrier service without considering how it is offered and provided. The Joint CLECs and TDS CLEC, for instance, simply repeat the *Further Notice*'s statement that BDS is common carriage, while INCOMPAS baldly asserts that BDS is a common carrier service.²⁰⁴ Similarly, Verizon and Sprint assume without explanation that all BDS providers are common carriers.²⁰⁵

None of these comments provide any basis for the Commission to conclude that competitive BDS is offered on a common carrier basis, nor does Verizon's recently filed *ex parte* letter on this subject.²⁰⁶ They offer no facts or legal analysis that would justify such a conclusion. Indeed, the assertion in Verizon's letter that cable operators offer service "indiscriminately" is contradicted by its own declaration acknowledging that one Ethernet provider has refused to provide service it requested. Verizon's declaration would only support

²⁰² See NCTA Comments at 11, citing *Norlight*, Declaratory Ruling, 2 FCC Rcd 132, 134 ¶ 20 (1987), *recon. Denied*, 2 FCC Rcd 5167 (1987); *Nat'l Assoc. of Regulatory Util. Comm'rs v. F.C.C.*, 525 F.2d 630, 641 (D.C. Cir.), *cert. denied*, 425 U.S. 992 (1976) ("NARUC I").

²⁰³ See NCTA Comments at 13, citing *Cellco Partnership v. F.C.C.*, 700 F.3d 534, 547 (D.C. Cir. 2012), *Verizon v. F.C.C.*, 740 F.3d 623, 649-659 (D.C. Cir. 2014), *F.C.C. v. Midwest Video Corp.*, 404 U.S. 689, 706 (1979) ("Midwest Video").

²⁰⁴ Joint CLEC Comments at 38; TDS Metrocom Comments at 4; INCOMPAS Comments at 12-13.

²⁰⁵ Verizon Comments at 4, 10, 17-18; Sprint Comments at 88. Verizon's position now is wholly inconsistent with its previous representation to the Commission, cited in the *Further Notice*, that it provides non-TDM services through "private carriage contracts." *Further Notice* at 114 n. 671.

²⁰⁶ See Letter from Curtis Groves, Verizon, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 16-143, WC Docket No. 05-25, RM-10593 (filed Aug. 5, 2016).

the conclusion that this provider is making individualized decisions as to what customers to serve, a hallmark of private carriage.²⁰⁷

One commenter does argue that the Commission can exercise its power under Section 4(i) of the Act to regulate BDS as “communication by wire” under Section 2 of the Act.²⁰⁸ However, as the Supreme Court explained in *Midwest Video*, “the Commission was not delegated unrestrained authority” by Congress in Section 2(a).²⁰⁹ Rather, the Commission and the courts have established that the Commission’s power to impose common carrier regulation is tightly circumscribed, and does not extend to treating non-common carriers as common carriers.²¹⁰ The Commission itself has held that it will not impose a general duty to provide service indiscriminately unless a provider has market power, which all competitive BDS providers lack.²¹¹ In light of the actual practices of cable BDS providers in offering their services and the utter lack of evidence that competitive BDS providers have market power, the Commission cannot lawfully adopt a blanket determination that cable-provided BDS is a common carrier service.

²⁰⁷ Higgins Declaration at ¶¶ 4-5.

²⁰⁸ TDS Metrocom Comments at 10.

²⁰⁹ *Midwest Video*, 404 U.S. at 706 (holding that the FCC could not impose common carrier obligations on cable operators).

²¹⁰ *NARUC I*, 525 F.2d at 641 (holding that the Commission’s discretion to impose common carrier status is limited); *see also Verizon v. F.C.C.*, 740 F.3d 623, 649-659 (D.C. Cir. 2014) (holding that FCC could not impose common carrier regulation on information services).

²¹¹ *Competitive Carrier FNPRM*, 84 FCC 2d at ¶ 36. (“[U]nder both the common law and our nation’s basic economic policies found in the antitrust laws, no duty to deal exists in the absence of monopoly power.”) (*citing U.S. v. Colgate*, 250 U.S. 300 (1919)).

V. CONCLUSION

For all of the reasons stated above, the Commission should refrain from imposing rate regulation or network sharing obligations on cable companies and other competing providers of BDS. Additionally, it should carefully circumscribe any new regulation to markets that exhibit substantial market failures and where the benefits of such regulation outweigh the inevitable costs.

Respectfully submitted,

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August 9, 2016

Exhibit A

Reply Declaration of Michael L. Katz and Bryan G.M. Keating

REDACTED - FOR PUBLIC INSPECTION

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of

**Business Data Services in an Internet
Protocol Environment**

WC Docket No. 16-143

**Investigation of Certain Price Cap Local
Exchange Carrier Business Data Services
Tariff Pricing Plans**

WC Docket No. 15-247

**Special Access for Price Cap Local
Exchange Carriers**

WC Docket No. 05-25

**AT&T Corporation Petition for
Rulemaking to Reform Regulation of
Incumbent Local Exchange Carrier Rates
for Interstate Special Access Services**

RM-10593

**REPLY DECLARATION OF MICHAEL L. KATZ AND BRYAN G.M. KEATING
(On behalf of NCTA)**

August 9, 2016

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I. INTRODUCTION AND OVERVIEW

1. The Federal Communications Commission (“Commission”) proposes a new beginning for the regulation of Business Data Services (“BDS” or “Special Access”).¹ We have been asked by counsel for the National Cable & Telecommunications Association (“NCTA”) to assess economic arguments and policy proposals made in this proceeding. To do so, we reviewed the economic comments submitted to the Commission on June 28, 2016.² In addition, we reviewed econometric analyses

¹ In the Matter of *Business Data services in an Internet Protocol Environment, Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans, Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, WC Docket Nos. 16-143, 15-247, 05-25, RM-10593, Tariff Investigation Order and Further Notice of Proposed Rulemaking, FCC 16-54, rel. May 2, 2016 (hereinafter *FNPRM*).

BDS consists of services that facilitate point-to-point data transmission over high-capacity lines subject to service-level guarantees. Several features characterize BDS, including: (i) dedicated symmetric transmission (*i.e.*, upload and download speeds are the same); (ii) performance guarantees; (iii) guarantees for traffic prioritization; (iv) guarantees on latency, loss and jitter; and (v) guarantees on service availability and outage resolution. (*FNPRM*, ¶¶ 13, 279.)

² Comments of Comcast Corporation, June 28, 2016, Exhibit A, Declaration of Joseph Farrell, (hereinafter *Farrell BDS Declaration*); Comments of Comcast Corporation, Exhibit A, Declaration of John W. Mayo, June 28, 2016 (hereinafter *Mayo BDS Declaration*); Mark Israel, Daniel Rubinfeld and Glenn Woroch, “Analysis of the Regressions and Other Data Relied Upon in the Business Data Services FNPRM And a Proposed Competitive Market Test,” June 28, 2016 (hereinafter *IRW Second White Paper*); Mark E. Meitzen & Philip E. Schoech, “Assessment of the FCC’s Proposed Options for the Special Access Price Cap X-Factor,” June 28, 2016 (hereinafter *Meitzen-Schoech Paper*); Declaration of Jonathan B. Baker on Competition and Market Power in the Provision of Business Data Services, June 28, 2016 (hereinafter *Baker BDS Declaration*); Comments of Sprint Corporation, June 28, 2016, Exhibit A, Declaration of John Kwoka (hereinafter *Kwoka BDS Declaration*); Comments of Sprint Corporation, June 28, 2016, Exhibit E, Declaration of William P. Zarakas and Jeremy A. Verlinda (hereinafter *Zarakas-Verlinda BDS Declaration*); Comments of Sprint Corporation, June 28, 2016, Exhibit E, Declaration of David E.M. Sappington and William P. Zarakas (hereinafter *Sappington-Zarakas BDS Declaration*); Comments of the American Cable Association, June 28, 2016, Appendix A, Dr. Marius Schwartz and Dr. Federico Mini,

conducted by Professor Marc Rysman on behalf of the Commission,³ analyses conducted by Commission staff,⁴ and analyses conducted by several commenters in the most recent

“Economic Basis for Not Regulating Competitive Providers of Business Data Services” (hereinafter *Schwartz-Mini BDS Declaration*).

³ *FNPRM*, Appendix B, Dr. Marc Rysman, “Empirics of Business Data Services,” April 2016 (hereinafter *Rysman White Paper*); Dr. Marc Rysman, *Empirics of Business Data Services* (Apr. 2016, rev. June 28, 2016) (hereinafter *Rysman Revised White Paper*).

Subsequently, the Commission solicited peer reviews from additional outside economists and received two reviews each from Dr. Andrew Sweeting and Dr. Tommaso Valletti. (See See Andrew Sweeting, “Review of Dr. Rysman’s ‘Empirics of Business Data Services’ White Paper,” April 26, 2016 (hereinafter *Sweeting First Peer Review*); Letter from Andrew Sweeting to Matthew DelNero, re: Comments on New Materials Related to the ‘Empirics of Business Data Services,’ July 13, 2016 (hereinafter *Sweeting Second Peer Review*); Letter from Tommaso Valletti to Matthew DelNero, April 28, 2016 (hereinafter *Valletti First Peer Review*); Letter from Tommaso Valletti to Deena Shetler, July 21, 2016 (hereinafter *Valletti Second Peer Review*).)

⁴ Memorandum from Wireline Competition Bureau, re: Peer Review of Empirics of Business Data Services White Paper by Dr. Marc Rysman (April 2016); Business Data Services in an Internet Protocol Environment; Investigation of Certain Price Cap Local Exchange; Carrier Business Data Services Tariff Pricing Plans; Special Access for Price Cap Local Exchange Carriers; AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services, WC Docket Nos. 16-143, 15-247, 05-25, RM-10593, June 28, 2016 (hereinafter *WCB Analysis*), Attachments 1-3.

and earlier rounds of comments.⁵ Finally, we reviewed policy proposals submitted by commenters.⁶

2. Our central conclusion is that adoption of the proposed policies would risk substantially harming both competition and consumer welfare. We also conclude that ex ante price regulation of all competitors—including recent entrants—would be especially likely to harm competition and consumers. We base these conclusions on economic principles and record evidence.

3. It is important to note at the outset that these conclusions do *not* depend on a finding that incumbent local exchange carriers (“ILECs”) lack market power in the provision of BDS. Rather, these conclusions are based on a realistic assessment of the effects of regulation. The ability of regulation to improve market performance is highly

⁵ Mark Israel, Daniel Rubinfeld and Glenn Woroch, “Competitive Analysis of the FCC’s Special Access Data Collection: White Paper,” January 26, 2016 (hereinafter *IRW White Paper*); “Supplemental Declaration of Mark Israel, Daniel Rubinfeld, and Glenn Woroch,” March 24, 2016 (hereinafter *IRW Supplemental Declaration*); “Second Supplemental Declaration of Mark Israel, Daniel Rubinfeld and Glenn Woroch,” April 20, 2016 (hereinafter *Second Supplemental Declaration*); *IRW Second White Paper*; “Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services,” January 27, 2016 (hereinafter *Baker Declaration*); “Reply Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services,” February 19, 2016 (hereinafter *Baker Reply Declaration*); “Supplemental Reply Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services,” March 2, 2016 (hereinafter *Baker Supplemental Reply Declaration*); *Baker BDS Declaration*; *Zarakas-Verlinda BDS Declaration*; *Mayo Declaration*.

⁶ Ex Parte Letter from Kathleen Grillo, Verizon, and Chip Pickering, INCOMPAS, to Marlene H. Dortch, June 27, 2016, Re: Business Data Services in an Internet Protocol Environment, WC Docket No. 16-143; Special Access Rates for Price Cap Local Exchange Carriers, WC Docket No. 05-25 (hereinafter *INCOMPAS-Verizon Letter*); Comments of INCOMPAS, June 28, 2016 (hereinafter *INCOMPAS Comments*); Comments of Birch, Earthlink, and Level 3, June 28, 2016 (hereinafter *Joint CLECs Comments*); Comments of Sprint Corporation, June 28, 2016 (hereinafter *Sprint Comments*); Comments of Verizon, June 28, 2016 (hereinafter *Verizon Comments*).

uncertain in a marketplace as complex as the one for BDS, which involves a wide range of complex, rapidly evolving, multidimensional products supplied by multiple providers at costs that vary by customer, service provider, and location. All of these features increase the difficulty of developing efficacious regulation, and they make it more likely that regulation will have adverse, unintended consequences such as reducing investment, harming innovation, and degrading service quality. And, of course, regulation imposes administrative costs as well.

4. Although a proper analysis of whether regulation is in the public interest must account for the inevitable costs and imperfections of regulation, commenters advocating pervasive regulation simply assume that ex ante price regulation must be beneficial if there is evidence that some firm in a market exercises market power. Such an assumption flies in the face of decades of academic research and policy-making experience regarding the reality of regulation. Regulation—like competition in most markets—is imperfect. And regulation has costs as well as potential benefits. The exercise of market power by some firms does not imply that the benefits of regulation will be greater than the costs.

5. An example illustrates the fundamental flaw in the arguments made for ex ante price regulation of BDS. Econometric research has found that other supermarkets tend to lower their prices when Wal-Mart enters their local markets.⁷ Applying the same logic put forth by commenters proposing ex ante BDS price regulation, one would conclude that all local markets from which Wal-Mart is absent should be declared to be non-

⁷ Emek Basker and Michael Noel (2009) “The Evolving Food Chain: Competitive Effects of Wal-Mart’s Entry into the Supermarket Industry,” *Journal of Economics & Management Strategy*, **18**(4): 977-1009.

competitive and that grocery stores in those markets should be subject to ex ante price regulation. But such a conclusion would make no sense absent reliable evidence on the size of the price effects, a realistic assessment of the likely effects of regulation (including unintended consequences), and a determination of the costs of regulation. The same conclusion holds with respect to calls for the ex ante BDS price regulation.

6. The remainder of our declaration explains our conclusions in greater depth and provides details of the facts and analysis that led us to reach them.⁸ It is organized as follows. In Section II, we examine the costs of regulation, which proponents of regulation generally fail to take into account. Although regulation surely would trigger administrative costs, the biggest costs are likely to be regulation's unintended consequences. Specifically, it is well-established in economics that ex ante price regulation in the form of price caps or benchmarks can be expected to: (a) reduce competitive entry and investment, and (b) reduce providers' incentives to offer high-quality services. Economics also establishes that these adverse effects can be reduced (although not eliminated) by limiting ex ante price regulation in any given market to an incumbent that has been found to have substantial market power.

7. Proponents of ex ante price regulation have conducted or cited several empirical studies that purport to assess the effect of competitive entry on ILEC BDS prices. In

⁸ The comments submitted in this proceeding contain numerous overlapping opinions and assertions. Although we have not tried to address every claim or proposal made in the comments, our present declaration is intended to cover all of the major categories of proposals related to regulating BDS. Any silence with respect to either a particular empirical or theoretical claim made, or a particular policy proposed, should not be interpreted as agreement with that claim or proposal unless we specifically state such an agreement.

Section III, we examine those studies and their ability to assist in answering the key questions the Commission faces with respect to BDS regulation: (a) are there markets in which the expected benefits of regulation are greater than the expected costs, and (b) if one is going to regulate, how can regulation be effective at least cost?

8. Rather than addressing these key questions, most proponents of regulation focus almost exclusively on the question of whether ILECs exercise market power in the provision of BDS, and they assert that the various studies establish that ILECs charge lower prices in markets with larger numbers of competitors. As others have demonstrated—and as we discuss below—these studies suffer from several econometric deficiencies. Hence, even if one were willing to make the heroic (and false) assumption that regulation would work perfectly, the empirical analyses would not provide reliable estimates of the potential benefits of regulation. Instead, the studies yield estimated price effects of competition that vary widely across specifications and are subject to severe potential biases.

9. Moreover, even ignoring these econometric deficiencies, the studies fail to answer the questions that are critical to developing pro-competitive, pro-consumer policies. First, they do nothing to address the costs of regulation, including the costs of unintended consequences, and therefore do not provide evidence that actual regulation would lower quality-adjusted prices.⁹ Second, even if the studies had properly estimated a causal

⁹ Quality-adjusted prices refer to prices that take into account differences in quality levels when comparing the prices of different products. It is important to consider quality-adjusted prices because price differences that are unadjusted for quality changes may not give an accurate picture of consumer-welfare effects. For example, even if the nominal price of a service falls, its quality-adjusted price would nevertheless *rise* if consumers lost

relationship between the number of competitors in a market and the market's equilibrium price level, these studies would still fail to identify an "effectively competitive" or "reasonable" price level. There are at least two reasons for this. One, the studies do not account for the extensive heterogeneity in the costs of serving specific customers and the wide range of service qualities provided. Stated another way, there are many different competitive prices, and the studies are incapable of identifying them. These studies also do not account for the presence of economies of scale and scope, which could result in situations in which BDS providers are willing to price as low as marginal cost to win some customers' patronage but those prices are below the BDS providers' average costs. It is not reasonable to expect firms to supply services to all of their customers at prices below their average costs, and a competitive market will not generate such an outcome in the long run. Far from demonstrating the regulation is beneficial, a finding that competition lowers prices supports the conclusion that consumers would benefit from Commission policies that promote facilities-based competition—the opposite of the effect of the proposed ex ante price regulation, which would be expected to reduce competitive entry.

10. INCOMPAS, Joint CLECs, Sprint, and Verizon all submitted comments that sketch outlines for new BDS regulatory frameworks. We examine these proposals in Section IV and demonstrate that they lack grounding in either facts or sound analysis and, if implemented, would be expected to harm competition and consumers. Specifically, all

more value from an accompanying decline in the quality of the service than they gained from the nominal price decrease.

of the proposals would be expected both to undermine the provision of innovative and/or high-quality services and to reduce investment by incumbents and—more important—entrants.

11. If the Commission is going to regulate BDS prices, then it should do so efficiently. This means imposing only regulation that reflects the significant differences in the market positions of different providers. According to the Commission's data, ILECs are established incumbents, have nearly ubiquitous networks, and account for the vast majority of BDS revenue. In contrast, competitive providers, including cable companies, are newer entrants, generally do not have ubiquitous networks for BDS, and collectively account for less than one-fifth of BDS revenue. Regulation of competitive providers would impose substantial costs for little or no benefit. This conclusion follows from the fact that, in order to attract customers, competitive providers would find it necessary to offer combinations of prices and service qualities that provided consumers value (or consumer surplus) equal or superior to those offered by the ILECs. Thus, any regulatory constraints on ILECs' prices would also impose constraints on competitive providers' prices through the mechanism of market rivalry, but they would do so at lower cost and with less competitive distortion than would regulation of all BDS providers. This conclusion holds because excluding competitive BDS providers from the direct application of regulatory price constraints would give them greater ability and incentive to offer BDS that customers would find attractive. Refraining from regulating competitive entrants would thus both promote increased facilities-based competition and provide a partial safety valve if the Commission were to set regulated prices at the wrong levels.

II. ADVOCATES OF REGULATION FAIL TO RECOGNIZE THAT REGULATION IS INEVITABLY IMPERFECT AND COSTLY.

12. As discussed in Section IV below, several commenters advocate the application of various forms of ex ante price regulation to BDS services found to be supplied under non-competitive conditions. In doing so, these commenters pay little, if any, attention to the costs of regulation. Instead, they assume that any finding that they interpret as evidence of the exercise of market power justifies ex ante price regulation and imposition of a duty to deal. This approach to policy making is fundamentally unsound. It may well be the case that ILECs possess and exercise market power, and that they do so to greater degrees in markets with fewer competitors. However, it does *not* follow that ex ante price regulation will enhance consumer welfare. A sound approach to policy making must consider the inevitable imperfections and costs of regulation, and it must take a realistic view of the potential effects of regulation—both positive and negative, intended and unintended.

13. The biggest costs are likely to be regulation's unintended consequences. Specifically, as we will now describe, economic analysis demonstrates that ex ante price regulation in the form of price caps or benchmarks can be expected to: (a) reduce competitive entry and investment, and (b) reduce BDS providers' incentives to offer high-quality services. Economic analysis also demonstrates that these adverse effects can be reduced by limiting price regulation in any given market to an incumbent that has been found to have substantial market power.

A. REGULATION WILL WEAKEN INVESTMENT INCENTIVES.

14. The economic principles are clear: regulatory price ceilings will reduce incumbents' and entrants' incentives to invest in new facilities and services. Specifically, if implemented, commenters' proposals for ex ante price regulation would substantially lower ILEC BDS prices (at least on a non-quality-adjusted basis).¹⁰ By reducing BDS revenues, but not costs, such policies would substantially reduce the return on new investment in BDS.¹¹

15. Investment in BDS networks, especially fiber networks, is costly. For example, cable providers have collectively invested billions of dollars in expanding their BDS capabilities over the past several years.¹² Such investment has been substantial and

¹⁰ ILECs currently subject to price caps typically set prices at or near those caps (*FNPRM*, ¶ 239), and commenters' propose reducing those prices by up to 45 percent immediately and by an additional 4.4 percent or some unspecified amount annually over the next ten years. (See, e.g., *Sprint Comments* at v; *Verizon Comments* at 15-16.)

¹¹ In a study commissioned by INCOMPAS, J. Scott Marcus argues that, because of the resulting increase in the quantities of BDS demanded, regulation that forces lower prices would not have large effects on provider revenues. (J. Scott Marcus, WIK-Consult, "Welfare effects of reductions in the price of leased line equivalents in the U.S.," July 26, 2016, available at <http://www.incompas.org/files/WIK-Consult%20Report.pdf>, site visited August 4, 2016.) However, investment incentives depend on both the costs and revenues associated with investment. This study neither addresses costs nor considers the effects of price regulation on the incremental revenues associated with investment. Hence, even if it were correct, this study would provide little insight into the effects of ex ante price regulation on BDS provider investment incentives.

For a broad critique of this study, see George S. Ford, "Learning from Bad Technique: The WIK-Consult Report on Business Data Services," *Perspectives*, Phoenix Center for Advanced Legal & Economic Public Policy Studies, August 4, 2016, available at <http://www.phoenix-center.org/perspectives/Perspective16-07Final.pdf>, site visited August 4, 2016 (hereinafter *Ford August Paper*).

¹² See, e.g., Comments of Charter Communications, Inc., June 28, 2016 (hereinafter *Charter Comments*) at 5, *Mayo BDS Declaration*, ¶¶ 42, 108, Comments of Cox Communications, Inc., June 28, 2016 (hereinafter *Cox Comments*) at 13, Comments of Mediacom Communications Corporation, June 28, 2016 (hereinafter *Mediacom*

ongoing, but further investment is threatened by the prospect of rate regulation.

Specifically, rate regulation that reduces the return on this investment will reduce the number of projects that are commercially attractive. For example, Comcast estimates that its internal rate of return on projects to provide backhaul to cell sites would fall below its internal hurdle rate [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END

HIGHLY CONFIDENTIAL INFORMATION].¹³ Similarly, Charter indicates that, while it “currently intends to continue to invest significantly in expanding its facilities-based BDS capabilities, additional regulation would create disincentives for Charter to undertake further investment.”¹⁴ Cox also indicates that lower regulated rates would reduce its incentives to provide BDS, including to schools, libraries, and rural health care facilities that receive Federal subsidies.¹⁵

Comments) at 2, Comments of The American Cable Association, June 28, 2016 (hereinafter *ACA Comments*) at 8.

¹³ *Mayo BDS Comments*, ¶ 92. See generally *Mayo BDS Comments*, § III.C.2.

¹⁴ *Charter Comments*, Exhibit A (Declaration of Phil Meeks), ¶ 9 (“Charter’s buildout [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL INFORMATION]. Under this model, price regulation would not, under any scenario, encourage additional investment in or deployment of BDS, because [BEGIN HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL INFORMATION].”)

¹⁵ *Cox Comments* at 22-23. See also *Cox Comments*, Exhibit 1 (Declaration of Jeremy Bye and Larry Steelman), ¶ 20 (“Cuts of the magnitude under consideration by the FCC, up to 21 percent with further year-over-year declines based on a to-be-determined productivity factor, could reduce Cox’s revenue to the point where construction would no longer be viable on some projects, especially those borderline projects where there is already risk that Cox will not recoup its investment. Reductions as low as 5 percent in the rates Cox

16. The attenuation of competitive BDS providers' investment incentives would be particularly harmful to consumers. As the Commission recognizes, competition is the best way of ensuring that markets perform well.¹⁶ From the perspective of economics, the Commission's stated desire to "promote new competitive entry" is a consumer-friendly policy.¹⁷ Entry can be expected to increase the economic surplus enjoyed both by buyers that become customers of the entrant and by buyers that patronize other service providers (including ILECs) as a result of the enhanced competition that drives down quality-adjusted prices.

17. Although it is particularly important not to let regulation block the emergence of new competition, the application of ex ante price regulation would do just that by lowering the incentives to enter and invest. Moreover, such regulation can create a vicious cycle whereby investment is undermined and facilities-based competition does not develop, or does not develop as quickly or expansively as it otherwise would, thus perpetuating the market conditions that triggered regulation. Absent regulation, competition would continue to develop, benefiting consumers while avoiding regulations' costs.

18. The harm to investment and entry incentives would be especially acute if the Commission extended ex ante price regulation to BDS entrants. This is so for two reasons. First, the application of binding ex ante price regulation would directly limit

can charge would cause some projects that today meet Cox's hurdle rate to have prospective returns below that rate.").

¹⁶ *FNPRM*, ¶ 5.

¹⁷ *FNPRM*, ¶ 309.

entrants' investment incentives for the reasons discussed above. Second, the Commission would be seen as having "changed the rules of the game" after companies have invested billions of dollars to engage in competition under the expectation that entrants would not be regulated. Simply put, the Commission would create a severe credibility problem, which would lead to additional uncertainty for firms considering entry and investment.

19. Regulation can also harm investment by creating a duty to deal with rivals, such as has been proposed by Verizon and other commenters that would require BDS providers to offer price-regulated wholesale access to their services.¹⁸ Economists have identified at least two broad mechanisms through which a strong duty to deal can harm competition by harming investment—a concern that is particularly salient in capital intensive industries such as telecommunications.¹⁹ First, if a firm is forced to share with

¹⁸ Verizon urges the Commission to create a duty to deal even where the potential buyer is the incumbent and the potential seller is an entrant. (*Verizon Comments* at 17 ("Verizon may use alternative Ethernet suppliers within its footprint for several reasons, including because some customers seek to have facilities diversity at their locations but also wish to obtain all of their Business Data Service through one-stop shopping with a single provider.") See also, *Higgins Declaration*, ¶ 4.) Verizon attempts to deny that it is creating a duty to deal, in part by asserting that BDS providers could levy "special construction charges" on customers to pay for the "additional cost of building new facilities" to serve that customer. (*Verizon Comments* at 19-20.) Verizon further asserts that the Commission would not have to regulate the use of such charges. (*Verizon Comments* at 20.) This statement is meaningless. If there were no limits on construction charges, then they could be used to deny service, rendering Verizon's proposed policy completely ineffectual. Inevitably, the Commission would be drawn into regulating such charges if it were to adopt the other elements of Verizon's (incomplete) proposal. See also *INCOMPAS Comments* 11-12; *Joint CLECs Comments* at 38-39; *Sprint Comments* at 92.

¹⁹ It is especially difficult to set the appropriate price via regulatory fiat in industries, such as BDS, that are characterized by variable quality and customer-specific costs. See Section III.A.

rival suppliers the fruits of its costly investments, then that firm will have weaker investment incentives than it otherwise would because its investments will not be a source of differentiation or competitive advantage.²⁰ In other words, the fundamental element of competing to gain advantage on rivals will be lost. Second, if a supplier knows that it can rely on the investments of rival firms through a duty to deal imposed on them, then that supplier has reduced incentives to compete by making investments of its own. Simply put, why should a supplier make costly investments in its own facilities if imposition of a duty to deal allows it to obtain the benefits of another company's investment at a lower cost? As a result of both of these mechanisms, a strong duty to deal weakens competition that would otherwise take place in the form of rivalrous investments in supply capabilities and product improvements.²¹

²⁰ Kenneth J. Arrow (1962), "Economic welfare and the allocation of resources for invention," in Richard R. Nelson, ed., *the Rate and Direction of Inventive Activity*, Princeton: Princeton University Press, 608-25.

²¹ It is my understanding that the Supreme Court has reached a similar conclusion with respect to the effects of a duty to deal on investment incentives and competition, as well as identifying broader concerns:

Firms may acquire monopoly power by establishing an infrastructure that renders them uniquely suited to serve their customers. Compelling such firms to share the source of their advantage is in some tension with the underlying purpose of antitrust law, since it may lessen the incentive for the monopolist, the rival, or both to invest in those economically beneficial facilities. Enforced sharing also requires antitrust courts to act as central planners, identifying the proper price, quantity, and other terms of dealing, a role for which they are ill-suited. Moreover, compelling negotiation between competitors may facilitate the supreme evil of antitrust: collusion.

(*Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 402 (2004).)

B. REGULATION WILL WEAKEN INCENTIVES TO OFFER HIGH-QUALITY BDS.

20. There is broad agreement among economists commenting in this proceeding and in the economics literature that economic theory predicts regulation will distort incentives to invest in service quality.²² For example, Professor Farrell states that “[a] well-recognized challenge with price caps (or benchmark pricing restrictions that effectively cap prices) is that they might undermine incentives to deliver quality.”²³ Professor Mayo states that “it is well-known that price cap regulation can erode incentive[s] for the regulated price cap firm to maintain quality.”²⁴ In an academic publication, Professors Sappington and Weisman explain why price-cap regulation distorts incentives to invest in quality:²⁵

²² See, e.g., Timothy J. Brennan (1989), “Regulating by Capping Prices,” *Journal of Regulatory Economics*, 1: 133–47; David E.M. Sappington (2002), “Price Regulation,” in *Handbook of Telecommunications Economics*, Vol. 1, North-Holland. See also *Farrell BDS Declaration*, § V.D; *Mayo BDS Declaration*, § III.C.3.

²³ *Farrell BDS Declaration*, ¶ 82.

²⁴ *Mayo BDS Declaration*, ¶ 95.

²⁵ David E. M. Sappington and Dennis L. Weisman (2010), “Price cap regulation: what have we learned from 25 years of experience in the telecommunications industry?,” *Journal of Regulatory Economics*, 38(3): 227-257 at 234 (citing Michael A. Spence (1975), “Monopoly, quality, and regulation” *The Bell Journal of Economics* 6(2): 417-429 at 420.)

Although this article cites to several empirical studies that “confirm the lack of a systematic relationship between [price cap regulation] and service quality,” elsewhere the same authors explain several reasons why “[m]easuring the impact of incentive regulation is a difficult and subtle exercise.” (David E. M. Sappington and Dennis L. Weisman (1996), “Potential pitfalls in empirical investigations of the effects of incentive regulation plans in the telecommunications industry,” *Information Economics and Policy*, 8(2), 125–140 at 125-126.) Indeed, empirical studies of the relationship between regulation and quality are inherently suspect given that a central point is that it is difficult to observe quality. Moreover, studies compared monopoly under different regulatory regimes, not situations with competitive providers. (*Id.*)

[T]he firm usually is not automatically reimbursed for the costs of increased service quality under incentive regulation plans like [price cap regulation]. When it faces a binding price ceiling, a regulated monopolist is unable to capture the full incremental surplus generated by an increase in service quality. Consequently, when the firm bears the full cost of the increased quality, it will deliver less than the surplus-maximizing level of quality. As Spence (1975, p. 420, note 5) observes, “where price is fixed ... the firm always sets quality too low.”

21. The same logic regarding the distortion in quality incentives holds when price caps are applied to multiple, competing providers. In fact, the problem can be considered to be even worse because, absent regulation, the competing providers would be expected to engage in quality competition (potentially offering a range of different quality levels), to consumers’ benefit. This fact points to another reason that, if regulation is going to be imposed, it is better not to apply it to all providers. Specifically, if price cap regulation is applied only to a service provider that has been shown to possess monopoly power, then new entrants not subject to price caps could seek to compete by offering higher quality services at potentially higher nominal prices (but lower quality-adjusted prices). Consumers would benefit from the increased competition associated with narrower regulation.

22. Although there is at least some risk that regulation will fail to generate benefits and instead have adverse intended consequences (*e.g.*, distorting quality and investment incentives) in almost any situation, this risk is especially acute in the case of BDS. Indeed, the existence of competing providers and other characteristics of the BDS industry make it almost a textbook example of what not to regulate. In particular, as we discuss further in Section III.A, the costs of providing BDS services are heterogeneous across customers, providers, and locations. Moreover, customers demand varying types

of services and varying levels of quality. The Commission appears to recognize the difficulty of regulating an industry with these characteristics. For example, in discussing potential benchmark rates, the Commission asks:²⁶

In addition to the bandwidth of the service offering, should the rates differ based on the technology, service tier, geographic location, quality of service, or any other factors? How should these differences be accounted for in determining the ultimate rate ceilings that providers are permitted to charge at or below for their packet-based BDS?

Failure to set appropriate rates (which is inevitable for products and market conditions as complex and changing as those of BDS) risks exacerbating distortions to quality incentives.²⁷

23. The failure to reward higher quality under ex ante price regulation would not be due to a “mistake” by the Commission that it might seek to avoid. Rather, the problem would arise due to asymmetric information: the Commission does not—and will not—have the information necessary to set price caps that appropriately adjust to differences in service quality. Verizon unintentionally supports the conclusion that the Commission lacks the necessary information and that regulation thus will harm quality when Verizon states that “[t]here is no need to expand [the Commission’s proposed definition of BDS]

²⁶ FNPRM, ¶ 432.

²⁷ Despite these well-recognized distortionary effects, according to Professor Sappington and Mr. Zarakas, “price cap regulation can provide relatively strong incentives for innovation, cost reduction, and productivity growth.” (*Sappington and Zarakas BDS Declaration*, ¶ 7.) Notably, they are silent on the effects of price cap regulation on incentives regarding product quality. Moreover, even with respect to incentives to invest in lower costs, Sappington and Zarakas’s point is valid only if regulation does not induce the firm to shut down entirely or refrain from entering additional markets. In those situations, price cap regulation can destroy investment incentives with respect to both cost reductions and quality improvements. (See footnote 25 above for a discussion of Professor Sappington’s academic statements on the relationship between regulation and quality.)

to specify minimum performance guarantees, because those *cannot easily be determined or monitored*.”²⁸ Moreover, even if the Commission somehow could obtain such information, that still would not be enough to avoid distorting the incentives to provide service quality. It would also be necessary for the Commission to know how individual customers value different levels of service quality along the various possible dimensions of quality. It is unrealistic, to say the least, to expect the Commission to be able to obtain such information.

C. REGULATION IMPOSES ADMINISTRATIVE COSTS.

24. In addition to reduced investment incentives and quality distortions, regulation is likely to impose administrative costs on both the Commission (and, thus, taxpayers) and service providers (and, thus, consumers). For example, many BDS providers would need to incur costs to design, build, and maintain systems and employ the necessary staff to comply with the reporting requirements associated with the proposed regulations.²⁹ Such requirements are likely to be particularly large given the varying dimensions of service. For example, Cox notes that firms price packet-based services differently than TDM services.³⁰ Similarly, any regulation premised on benchmarking across markets would be complex given varying product and service characteristics across markets.³¹

²⁸ *Verizon Comments* at 8 (emphasis added).

²⁹ See, e.g., *Cox Comments* at 13-14; *ACA Comments* at 41; Comments of Lightower Fiber Networks I, LLC, Lightower Fiber Networks II, LLC, and Fiber Technologies Networks, LLC, June 28, 2016 at 22.

³⁰ *Cox Comments*, Exhibit 1 (Declaration of Jeremy Bye and Larry Steelman), ¶ 16.

³¹ *Id.*

25. Commenters, ranging from small cable providers to large ILECs, have highlighted the potential administrative costs:

- AT&T states that tracking regulation at the census block level would be “an administrative nightmare for both regulators and providers,” and would “create enormous challenges to both providers and their customers when negotiating prices terms and conditions.”³² Even using larger census tracts, AT&T estimates new regulation would require revising its billing and tracking systems and would “take approximately 18-24 months and divert tens of millions of dollars.”³³
- Comcast states that administrative costs would be particularly high for providers contracting with multi-location customers:³⁴

[T]he FNPRM’s rate regulation proposal would create intractable problems for providers’ contracting with business customers... Under the approach espoused in the FNPRM, the Commission would turn the map into a checker-board of “competitive” markets and “non-competitive” markets, with prescriptive rate regulation applied to providers in the latter, while market-based rates would prevail in the former. The administrative difficulties of such an approach are apparent when considering the fact that a significant portion of the BDS marketplace consists of “[m]ultilocation customers”—that is, “customers requir[ing] connections to . . . many sites in diverse locations, often in areas with limited business density,” that prefer to purchase service from a single BDS provider with “a broad regional footprint.”

- Cox states that:³⁵

Competitors would be required to monitor their rates and attempt

³² Comments of AT&T Inc., June 28, 2016 at 40.

³³ *Id.*

³⁴ *Comcast Comments* at 54-55.

³⁵ *Cox Comments* at 28.

to conform them to the benchmarks. This could require changes in rate structures to match the way the benchmarks are designed. It is also likely that Cox would have to incur the cost of developing an entire new web portal, potentially at a cost of millions of dollars so that its personnel and others could respond to pricing questions in a way that correctly matches prices to the relevant geographic area of the competing ILEC. Moreover, the possibility of a patchwork of different rates based on whether an area is competitive or non-competitive would make it extremely difficult to work with multi-location customers and devise rational pricing plans. Competitors also would have to maintain accurate public postings of their rates, which in the context of rapidly changing markets would require substantial resources that could be devoted to other tasks such as providing superior service to customers.

D. REGULATION CREATES OPPORTUNITIES FOR COSTLY RENT-SEEKING.

26. As is already evident from the comments filed in this proceeding, the imposition of a new regulatory regime will lead to rent-seeking activities as parties attempt to utilize the regulatory process to confer economic benefits on themselves.³⁶ Such activities are socially wasteful expenditures of resources. More important, ongoing rent-seeking activities increase regulatory uncertainty and create the risk of hold up, whereby the Commission imposes or modifies regulations that lower the returns that a supplier earns on investments that it sank prior to the regulatory change. Faced with a risk of this type of hold up, an economically rational firm will invest less than otherwise.³⁷

³⁶ See, e.g., Richard A. Posner (1975) “The Social Costs of Monopoly and Regulation,” *The Journal of Political Economy*, **83**(4):807-828 (“public regulation is probably a larger source of social costs than private monopoly”).

³⁷ This is one of the rationale underlying Schwartz and Mini’s recommendation that policy makers “confine price regulation to facilities that were largely funded under a monopoly-franchise regime, and exempt investment made under no regulatory protection from competition.” (*Schwartz-Mini BDS Declaration* at 6.)

E. IMPLICATIONS OF THE COSTS OF REGULATION

27. It is inevitable that pervasive price regulation will impose costs and give rise to adverse unintended consequences. This fact does not imply that price regulation is never justified. But it does imply that price regulation should be imposed only if there is strong evidence of significant likely benefits that could offset the inevitable costs.

28. Regulation is particularly problematical in an industry such as BDS that has multiple, competing providers offering a wide range of products that have quality levels that are difficult to measure and are constantly evolving due to innovation. These factors greatly increase the complexity of regulation and make it more likely that regulation will give rise to adverse unintended consequences. Thus, it is even more important to have sound evidence of significant potential benefits of ex ante price regulation before imposing it. However, as we describe next in Section III, the factual record in this proceeding does not contain such evidence. Instead, the record indicates that ex ante price regulation—especially if applied to all BDS providers in a large number of markets declared to be non-competitive markets—would very likely impose greater costs than benefits.

III. THE ECONOMETRIC STUDIES CITED IN THIS PROCEEDING DO NOT PROVIDE SUPPORT FOR THE PROPOSED REGULATORY FRAMEWORKS

29. In theory, econometric analyses could help answer the key questions the Commission faces with respect to BDS regulation: (a) are there markets in which the expected benefits of regulation are greater than the expected costs, and (b) if one is going to regulate, how can regulation be effective at least cost? Unfortunately, rather than

addressing these key questions, proponents of regulation focus almost exclusively on the question of whether ILECs exercise market power in the provision of BDS, which they attempt to answer by conducting or citing several empirical studies assessing the relationship between ILEC BDS prices, the number of competitors, and other factors that potentially affect prices.

30. Even if the various studies reliably established a statistically significant, negative relationship between ILEC BDS prices and competition, such a finding alone would not justify ex ante price regulation because that information does not enable a comparison of the costs and benefits of regulation.³⁸ Indeed, proponents make almost no effort to compare regulation's costs and benefits. Moreover, as we describe further below, these studies do not provide a reliable basis on which to design specific elements of a

³⁸ More generally, an estimate of the difference between actual market performance and the competitive ideal does not provide an appropriate estimate of the net benefits of actual regulation, which is inevitably unable to fully mimic competition. This is one reason why the calculations in the Consumer Federation of America's "Special Problem of Special Access" and WIK-Consult's "Welfare effects of reductions in the price of leased line equivalents in the U.S." do not provide valid estimates of the benefits of BDS regulation. Moreover, these studies apply macro-economic "multipliers" to the purported benefits of reducing BDS prices. However, to obtain a valid measure of the net effects of regulation, one would need to apply those same multipliers to the harms from regulation (e.g., distortions in service quality). (Mark Cooper, Director of Research, Consumer Federation of America, "The Special Problem of Special Access: Consumer Overcharges and Telephone Company Excess Profits," April 2016, *available at* <http://consumerfed.org/wp-content/uploads/2016/04/4-16-The-Special-Problem-of-Special-Access.pdf>, site visited August 2, 2016; J. Scott Marcus, WIK-Consult, "Welfare effects of reductions in the price of leased line equivalents in the U.S.," July 26, 2016, *available at* <http://www.incompas.org/files/WIK-Consult%20Report.pdf>, site visited August 4, 2016.)

For critiques of these studies, see George S. Ford, "Cost or Benefit? A Review of the Consumer Federation of America's Report on Regulating Special Access Services," *Perspectives*, Phoenix Center for Advanced Legal & Economic Public Policy Studies, April 18, 2016, *available at* <http://www.phoenix-center.org/perspectives/Perspective16-04Final.pdf>, site visited August 4, 2016; *Ford August Paper*.

regulatory scheme, such as a threshold number of BDS providers or bandwidth required in order for a local market to be considered to be effectively competitive. Determining the appropriate values for such thresholds requires reliable estimates of the incremental benefits, if any, associated with marginal changes in the levels of the thresholds. But the authors of the econometric studies themselves appear to concede that the studies are not well-suited to provide reliable estimates of the magnitudes of the price effects due to a specific numbers of competitors, and the studies do not meaningfully examine the effects of changing bandwidth thresholds. In short, the econometric studies in the record of this proceeding do not support the proposals for pervasive ex ante price regulation discussed in Section IV below.³⁹

A. MARKET INSTITUTIONS AND CHARACTERISTICS

31. A properly formulated study must take into account how competition works. Thus, it is important to understand market institutions, such as the buying and selling process, as well as technological and cost conditions. BDS competition is characterized by at least two important factors: (a) prices are often established via a bidding process, and (b) the costs associated with providing BDS services vary with each provider-customer-location triad even for the same level of service.

³⁹ It is notable that several economists who assert that the econometric analyses provide meaningful information on whether ILECS possess market power do not affirmatively say that regulation would be beneficial. (See, e.g., *Kwoka BDS Declaration*; *Baker BDS Declaration*, ¶ 33 (stating only that ILECs “would be expected to charge prices above competitive levels unless prevented by regulation.”).)

32. Economic principles applied to marketplace facts clearly indicate that BDS competition should be modeled as bidding competition.⁴⁰ For example, a customer may put out a request for proposal (RFP) to solicit proposals from BDS providers.⁴¹ Even when a customer does not explicitly engage in a bidding or RFP process, the price-setting process typically results in outcomes similar to those that would result from a bidding process.⁴² The outcomes are similar because BDS customers tend to be sophisticated buyers with the ability to collect and evaluate options available from multiple providers.

33. The bidding nature of BDS competition has at least two economic implications. First, it means that potential competitors can influence market outcomes. In particular, BDS providers can and do expand their services beyond the footprint of their existing networks, especially in response to an RFP. Thus, sophisticated buyers frequently solicit bids from providers that do not currently serve the buyer's location. Indeed, the Commission's empirical analysis supports the conclusion that potential competition affects market outcomes.⁴³ The second implication of price-setting through bidding is

⁴⁰ See, e.g., *IRW White Paper* at 8-9 ("Special access transactions exhibit many of the characteristics described in the literature on 'bidding markets'."); *Farrell BDS Declaration*, § V.A.; *Mayo BDS Declaration*, ¶ 55; *Schwartz-Mini BDS Declaration* at 14 ("Additionally, many of the BDS customers—such as enterprises and carriers—are large and sophisticated and sometimes can induce competitive pricing even without requiring competitors to deploy new facilities, by offering long-term contracts that render the threat of entry credible... Our interviews reported that in Requests for Proposals (RFPs) they often encounter two or three credible bidders."); *Charter Comments* at 20; *Cox Comments* at 12.

⁴¹ See, e.g., *Sprint Comments*, Exhibit B, Declaration of Frentrup (hereinafter *Frentrup Declaration*), ¶ 4 ("Sprint solicited bids to provide Ethernet backhaul to its more than 38,000 cell sites.").

⁴² *IRW White Paper* at 9.

⁴³ See, e.g., *FNPRM*, ¶ 161 ("Potential competition is important, that is, nearby suppliers can constrain BDS prices. For example, we find that fiber-based competitive supply

that markets may be highly competitive even with a small number of service providers. This conclusion follows from the fact that, once a network build-out occurs, most of the costs are sunk and the incremental cost of service is low, so that it can be profitable to bid aggressively to obtain or retain business.⁴⁴

34. There is also broad agreement that both costs and the desired level of service vary across both customers and providers (and the combination of customers and providers).⁴⁵

For example, in order to serve a particular customer location, BDS providers must construct customer-location-specific facilities. The costs of constructing vary by customer-provider pair for a given level and quality of service.⁴⁶ For example, Windstream indicates that the costs of serving customer locations vary depending on the location of the customer relative to the location of the existing network as well as the number of customers that will be served at the location.⁴⁷ Similarly, network utilization rates are likely to vary across providers. Holding capacity fixed, higher network utilization rates imply a higher opportunity cost to serve any particular customer because the bandwidth used to serve the customer could be put to other uses. In addition to

within at least half a mile generally has a material effect on prices of BDS with bandwidths of 50 Mbps or less, even in the presence of nearby UNE-based and HFC-based competition.”). See also Section IV.A.2.

⁴⁴ See, e.g., *IRW White Paper* at 10.

⁴⁵ See, e.g., *Farrell BDS Declaration*, § V.A.

⁴⁶ There are also large differences in the levels and qualities of services. The FNPRM implicitly recognizes this fact by asking whether benchmark rates should “differ based on the technology, service tier, geographic location, quality of service, or any other factors.” (FNPRM, ¶ 432.)

⁴⁷ Comments of Windstream Services, LLC, June 28, 2016 at 30-31. See also *Cox Comments*, Exhibit 2 (Declaration of Ken Shelton), ¶¶ 9-10.

varying costs, service quality attributes and customer demand for those attributes also varies. As we discuss further below, these varying costs and the service-level heterogeneity have important implications for interpreting the empirical results that the Commission and commenters report.

B. THE ECONOMETRIC STUDIES SUBMITTED IN THIS PROCEEDING DO NOT PROVIDE A RELIABLE QUANTIFICATION OF THE RELATIONSHIP BETWEEN PRICES AND COMPETITION.

35. Studies performed by Professor Rysman, Commission staff, and commenters examine the correlation between equilibrium price and number of competitors. In order to evaluate those studies, it is important to consider the purpose for which they are being used. There are at least two possibilities. First, the econometric studies could be used to inform a competitive market test by, for example, assessing the incremental effect of adding new competitors to a geographic area. For the studies to be informative for this purpose, they would need to provide reliable estimates of the incremental effect of adding competitors. Second, they could be used to support regulation by, for example, determining the competitive price. For the studies to be informative for this purpose, they would need to provide reliable estimates of deviations from the competitive price. For the reasons explained below, the econometric studies neither provide reliable estimates of incremental competitive effects nor establish a competitive price.

36. There are several problems with the econometric studies that attempt to prove that prices are not at competitive levels (*i.e.*, too high) in BDS markets with few competitors. Other commenters in this proceeding have commented at length on the econometric analyses in the record, including Professor Rysman's analysis. In many cases, such

commenters have demonstrated that empirical results are not robust to alternative specifications.⁴⁸ While we do not repeat the discussion that is already in the docket, below we highlight several important points.

1. No study has solved the problem of unobserved heterogeneity.

37. The problem of unobserved heterogeneity is a very serious one.⁴⁹ Specifically, all of the econometric analyses in the record rely on evaluating the relationship between ILEC prices and the number of actual and/or potential BDS competitors based on variation in ILEC prices and the number of competitors across geographic areas. In order to ascribe a causal relationship between the price and the number of competitors to the regression results, it is necessary to have exogenous variation in the number of competitors (*i.e.*, variation in the number of competitors that is unrelated to the price charged for the service other than through the effect of competition). In the absence of

⁴⁸ See, *e.g.*, *Mayo BDS Declaration*, ¶ 77:

Thus, even if the conceptual framework were correct (it is not) and the empirical construction appropriate (it is not), the empirical results are themselves not stable to simple alternative specifications that use relevant (as opposed to irrelevant) data. The results are, in any event, not robust enough to support the conclusion that the regression analysis ‘provides direct evidence of market power.’ Absent both an appropriate conceptual framework and a distinct lack of robustness to alternative sensible specifications, the regressions fail to provide the claimed ‘evidence’ of market power inferred by the Commission.

and *IRW Supplemental Declaration*, ¶ 19:

Notably, applied here, this robustness test shows that Prof. Baker’s results are not robust. An examination of the regression results shows that the coefficients change sign and significance from one sample to the next. The implication is the full set of Dr. Baker’s regressions does not provide robust support for his inference of a relationship between the number of competitors and price.

⁴⁹ *Rysman Revised White Paper* at 20 (“A major concern is that locations differ in important and unobservable ways.”).

such exogenous variation, correlation between the number of firms and price does not imply a causal relationship.

38. The problem is easily illustrated by example. Some locations are more costly to serve (*e.g.*, because they are more remotely located), which is correlated with both higher prices and fewer competitors.⁵⁰ If such costs are not accounted for in the analysis, a simple regression of price on the number of competitors is likely to find that the presence of fewer competitors is correlated with higher prices. However, this result would not demonstrate that having fewer competitors *causes* higher prices. Instead, in this example, a third factor, higher costs, leads to both higher prices and fewer competitors.

39. Professors Baker and Rysman are aware of this problem.⁵¹ For example, Professor Rysman attempts to address it by using location fixed effects at the county and census tract levels.⁵² Drs. Israel, Rubinfeld, and Woroch point out that there is no

⁵⁰ *Rysman Revised White Paper* at 20 (“locations may differ in how costly they are to serve with BDS”). See also Section II.A above.

⁵¹ See also *Sweeting First Peer Review*, ¶ 7:

Given that the analysis uses cross-sectional data it is also necessary to make the assumption that entry of competitors is not more likely to happen where ILEC prices for BDS services would naturally be low, which might happen if there are areas where customers are more likely to purchase a wide range of ILEC products of which BDS services are simply a small part.

and *Valletti First Peer Review* at 6:

Fourth, the author mentions that his approach relies on some randomness in how the number of CPs is determined in various locations. While he does control for location fixed effects that account for quite a few unobservable factors, the question remains whether it is still possible that unobserved factors that can affect prices (particular demand and supply characteristics) differ within the census tract, and could drive the entry of CPs.

⁵² *Rysman Revised White Paper* at 20. See also *Baker Declaration*, Table 2 and Table 3 and *Baker BDS Declaration*, Table 1.

evidence that this approach solves the problem. Use of the fixed-effects estimation strategy changes the variation that identifies the relationship between competition and price,⁵³ but it does not fundamentally change the econometric challenge of identifying exogenous variation in the level of competition. As Drs. Israel, Rubinfeld, and Woroch explain:⁵⁴

The problem... is that the way the fixed effect estimator selects which variation to rely on is not driven by whether the variation is or is not exogenous. As such, the variation in number of competitors used to draw inferences under this approach is not free of endogeneity and, consequently, this approach is not a solution to the problem at hand.

Even with the inclusion of fixed effects for some geographic unit (*e.g.*, census tracts), the econometric models must still rely on cross-sectional variation in the number of competitors to identify the relationship with price. And there is no reason to believe that such variation is exogenous.⁵⁵ In fact, it seems likely that the number of competitors will

Here, fixed effects refers to the use of a variable that controls for any factors that have a common influence on all observations within either a country or census tract.

⁵³ For example, inclusion of census tract fixed effects causes the econometric specification to identify the relationship based on within-census tract variation in price and the number of competitors.

⁵⁴ *IRW Second White Paper* at 12-13.

⁵⁵ Both peer reviewers of Professor Rysman's analysis reach similar conclusions. For example, Professor Sweeting writes "[a] cross-sectional price-concentration analysis inherently suffers from the possible problem that there is some unobserved factor that affects prices and is correlated with competition that may lead to a spurious relationship. Dr. Rysman's approach of using fixed effects and trying multiple specifications is exactly what one should do with this type of data, but it does not remove the problem entirely." (*Sweeting First Peer Review*, ¶ 19.) Similarly, Professor Valletti writes that the problem of unobserved heterogeneity is "almost unavoidable in a cross-section like this." (*Valletti First Peer Review* at 6.)

be correlated with supply and demand factors that are correlated with price independently of the competitive effect.⁵⁶

40. Professor Rysman admits that his “approach relies on some randomness (at least, relative to the other variables [he] stud[ies]) in how CPs choose where to enter, driven perhaps by strategic decisions or internal cost concerns.”⁵⁷ However, he does nothing to identify what sorts of strategic decisions or internal cost concerns might affect entry decisions within a census tract. Moreover, there has to be *some* reason for the observed pattern of entry and competition. Given that costs are a major consideration for companies considering whether to serve a given location and, if they do, what prices to charge there, the evidence in this matter makes clear that both prices and entry decisions are driven by cost considerations.⁵⁸ Professors Baker and Rysman’s approach relies on the untested assumption that these cost differences are idiosyncratic to particular service providers, rather than correlated across service providers (as would be the case in environments where construction costs and access to rights of vary by location). This failure fully to account for factors that explain the pattern of competition seriously calls into question the validity of the studies’ conclusions, especially with respect to the magnitudes of the coefficients.

⁵⁶ See, e.g., *IRW Second White Paper* at 13.

⁵⁷ *Rysman Revised White Paper* at 20.

⁵⁸ See Section II.A.

2. There are strong disagreements within and among the studies.

41. Even taken at face value, the econometric analyses yield conflicting results within and across studies. For example, Drs. Israel, Rubinfeld, and Woroch find that:⁵⁹

Of the [BEGIN HIGHLY CONFIDENTIAL] [END HIGHLY CONFIDENTIAL] coefficients on indicators of competitors that were reported in the econometric specifications reported by Prof. Baker, [BEGIN HIGHLY CONFIDENTIAL] [END HIGHLY CONFIDENTIAL] are positive, either statistically significant, or insignificant. Six of them are positive and statistically significant (i.e., the opposite of Prof. Baker's claim of an inverse relationship). More generally, [BEGIN HIGHLY CONFIDENTIAL] [END HIGHLY CONFIDENTIAL] do not support Prof. Baker's claim of an inverse relationship between ILEC pricing and competitor counts and prices, either because their values are not statistically different from zero, or because their values are positive [*i.e.*, prices are found to increase with the number of competitors]. The bottom line is that these results fall far short of the consistent pattern of negative and statistically significant coefficients that would be required for one to draw a reliable inference of an inverse relationship.

Similarly, Dr. Mayo demonstrates that, once one accounts for the timing of long-term contracts, which are common, many of the empirical results that purport to find a relationship between competition and price disappear.⁶⁰ Thus, even within the context of empirical analysis that purports to reflect evidence of a relationship between BDS competition and price, such a relationship is only sometimes evident in the data.

3. The econometric studies for BDS above 45 Mbps do not provide any reliable basis for ex ante price regulation of those services.

42. There is especially strong disagreement regarding the relationship between price and the number of competitors for BDS between 45 Mbps and 1 Gbps. Professor

⁵⁹ *IRW Supplemental Declaration*, ¶ 5, footnotes omitted.

⁶⁰ *Mayo BDS Declaration*, § III.B.2.b.

Rysman finds no systematic relationship between price and the number of competitors for “high-bandwidth” services (which he defines to be services offering speeds greater than 45 Mbps).⁶¹ In contrast, Professor Baker and Drs. Zarakas and Verlinda purport to find that price and the number of competitors are negatively correlated for at least some BDS over 45 Mbps.⁶² But even these results reveal no consistent pattern. For example, in Professor Baker’s initial declaration, he found a negative and statistically significant coefficient on a competitor variable in only [BEGIN HIGHLY CONFIDENTIAL]

[END HIGHLY

CONFIDENTIAL].⁶³ Similarly, in Professor Baker’s June 28, 2016, declaration, he found a negative and statistically significant relationship between ILEC prices and the number of competitors for [BEGIN HIGHLY CONFIDENTIAL]

[END HIGHLY

CONFIDENTIAL].⁶⁴

⁶¹ *Rysman Revised White Paper* at 5 (“regressions for higher bandwidth lines show muddled and conflicting effects of competition, often at low levels of statistical significance.”) See also *Sweeting First Peer Review*, ¶ 18 (“There are no clear results for high bandwidth connections, and I would be skeptical about trying to read too much into the subset of the coefficients that are significant for this type of service.”).

⁶² See *Zarakas and Verlinda BDS Declaration*, ¶ 23; *Baker Declaration*, Tables 2 and 3; *Baker BDS Declaration*, ¶ 3 (“[BEGIN HIGHLY CONFIDENTIAL]

[END HIGHLY

CONFIDENTIAL].”)

⁶³ *Baker Declaration*, Table 2, Cols. (10)-(13) and Table 3, Cols. (10)-(13).

⁶⁴ *Baker BDS Declaration*, Table 1, Cols. (3)-(4), (7)-(8). For purposes on this calculation, I focus on the same columns that Prof. Baker discusses in the text of his declaration, which

43. Moreover, Professor Baker's high-bandwidth results are not robust to the definition of the geographic fixed effects. When he uses census-tract fixed effects, only

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[END HIGHLY CONFIDENTIAL]

[BEGIN HIGHLY CONFIDENTIAL]

[END HIGHLY CONFIDENTIAL].⁶⁵ There is no reason to believe that specifications that use county fixed effects are more reliable. As Professor Rysman noted:⁶⁶

Whether census-tract fixed effects or county fixed effects are more appropriate is difficult to say. Naturally, census-tract fixed effects better insulate regression results against unobserved heterogeneity. However, highly granular fixed effects can capture too much variation in the sense that they prevent us from making use of any regional variation in market structure, even if that variation is large or useful for identification purposes. Ideally, we look for results that are robust across specifications, and those become more apparent as we dig deep into these regressions.

Moreover, it is notable that, in Professor Baker's initial declaration, he used census-tract fixed effects and not county fixed effects.⁶⁷ Use of census-tract fixed effects in his most recent filing yields [BEGIN HIGHLY CONFIDENTIAL]

[END HIGHLY CONFIDENTIAL].⁶⁸

focus on the [BEGIN HIGHLY CONFIDENTIAL]

[END HIGHLY CONFIDENTIAL]. (See *Baker BDS Declaration*, ¶ 15.)

⁶⁵ *Baker BDS Declaration*, Table 1, Cols. (3)-(4), (7)-(8).

⁶⁶ *Rysman Revised White Paper* at 22.

⁶⁷ *Baker Declaration*, Tables 2-3.

⁶⁸ *Baker BDS Declaration*, Table 1, Cols. (1), (3), (5), and (7).

44. For several reasons, Professor Rysman’s analysis offers no basis to regulate BDS of the types typically offered by cable providers, regardless of any findings regarding ILEC market power. First, Professor Rysman finds that “[t]he effect for high-bandwidth lines [greater than 45 Mbps] is statistically insignificantly different from zero for census tract fixed effects and is positive for county fixed effects.”⁶⁹ Second, Professor Rysman did not perform an analysis of packet-based services with bandwidth of 45 Mbps or less.⁷⁰ When Drs. Mark Israel, Daniel Rubinfeld and Glenn Woroch applied Professor Rysman’s methodology to data for packet-based services offering 45 Mbps or less, they found no evidence of market power.⁷¹ Third, Professor Rysman and other commenters performed their empirical analysis on ILEC prices, but not CLEC prices.⁷² Because the Professor Rysman’s empirical analysis focuses solely on the effect of competition on ILEC prices and finds effects only for BDS with bandwidths under 45 Mbps, it provides no basis on which to regulate higher-bandwidth BDS services offered by cable providers, even holding aside other issues with the analysis.

⁶⁹ *FNPRM* at 218.

⁷⁰ *FNPRM* at 215, n. 31.

⁷¹ *IRW Second White Paper* at 26 (“The regression estimated a 4.1% increase in ILEC price of this type of circuit when there was a facilities competitor in the block, and that increase was highly statistically significant. If one were to adopt Prof. Rysman’s methodology, this result would reject a claim that ILECs exercise market power for low-band, packet-based circuits.”)

⁷² *Rysman Revised White Paper* at 7 (“I focus my analysis of prices on how ILEC prices respond to CP presence. I note that conventional wisdom is that ILECs hold any market power that exists rather than CPs, and that facilities-based entry is the most important source of competitive discipline, so my focus on facilities-based entry and ILEC prices is not particularly restrictive.”)

C. EVEN IF THE ECONOMETRIC STUDIES HAD ESTABLISHED A CAUSAL RELATIONSHIP BETWEEN PRICE AND THE NUMBER OF COMPETITORS, THEY WOULD NOT ESTABLISH THAT EX ANTE PRICE REGULATION GENERATES SUBSTANTIAL BENEFITS.

45. Economic theory provides reasons to believe that an exogenous increase in the number of competitors will lead to lower equilibrium prices, all else equal. But that fact alone is insufficient to justify regulation in markets that appear to have few competitors. It is important to conduct a sound assessment of the size of the effects of competition on prices, to consider dynamic—as well as static—market conditions, to determine what constitutes “competitive price,” and to take a realistic view of the benefits—as well as considerable costs—of regulation. Proponents of ex ante BDS price regulation have failed to do any of these things in a meaningful way. Below, we discuss the fact that, even taken at face value, the econometric studies neither establish what the competitive price level would be nor show that the benefits of pervasive regulation would be large even if (counterfactually) regulation worked perfectly and had no costs.

1. The econometric studies do not identify “the competitive price.”

46. Done correctly, an estimate of the competitive price can provide guidance for determining what regulated price level would (imperfectly) mimic competition. However, as we will now demonstrate, there are at least two fundamental reasons why, even taken at face value, the econometric studies fail to identify an appropriate “competitive price” for regulation to mimic.

(a) *Regulation must account for economies of scale.*

47. According to Professor Rysman:⁷³

The basic idea that motivates my regressions is that if more competition reduces prices, it tells us that markets without competition exhibit market power. If the threat of entry, or alternatively highly elastic demand, eliminated the ability to raise price over competitive levels, we would not see prices decline when actual entry occurred.

However, as a matter of economic logic, even a finding that the number of competitors has an effect on prices does *not* imply that prices in markets with few competitors are above an “effectively competitive” or “reasonable” level. In a market subject to economies of scale, a service provider will not be viable if it charges all customers the marginal costs of serving them because pricing at marginal cost in that circumstance would not permit a contribution toward the common costs of the network. In such a market, some customers may pay prices lower than the market-wide average price needed for financial viability. It makes no economic sense to assert that those lower prices are at the “competitive” level that regulation should seek to mimic.⁷⁴

48. This point is readily demonstrated in a simple example. Suppose that a network has fixed costs of \$100 and incurs incremental costs of \$40 per customer to serve two customers. Now suppose that the firm faces competition for one of the customers, but not the other. The firm would be willing to set its price to the “competitive” customer as low as \$40. That price would cover its incremental costs but would not contribute anything toward the \$100 fixed and common cost. It would be a serious mistake,

⁷³ *Rysman Revised White Paper* at 19.

⁷⁴ Several commenters have made proposals that severely risk violating this principle. See Section IV below for a discussion of commenters’ proposals.

therefore, to conclude that the competitive price is \$40 and that the service provider should be forced to charge no more than \$40 to each customer. Doing so would prevent the provider from recovering its costs. The provider's total revenues would be \$80, while its total costs would be \$180.

49. It has long been recognized in antitrust and regulation that it makes little sense to hold marginal cost pricing to be the standard for what constitutes “effectively competitive” or “reasonable” pricing in a market subject to economies of scale. Such a standard would render suppliers economically unviable because they would be unable to cover their costs of operation. The result would be less facilities-based competition from which consumers otherwise would have benefited. Yet, when proponents of regulation (at least ostensibly) rely on Professor Rysman's study and similar econometric exercises to justify regulation, they fail to consider the role of economies of scale and the appropriate cost benchmarks.

(b) *There are many different competitive prices because there are many different products, as well as customer-specific costs.*

50. BDS providers commonly enter into individualized negotiations and agreements with customers.⁷⁵ This fact is evident from the wide variety of prices charged for the same level of service in the 2013 data. For example, Professor Rysman finds that the

⁷⁵ See, e.g., *Charter Comments* at 18; *Comcast Comments* at 15-17; *Cox Comments* at 21; *Mediacom Comments* at 3 n.3, 7.

mean price for DS1 service is \$219, with a standard deviation of \$252.⁷⁶ Similarly, he finds that the mean price for DS3 service is \$1,314, with a standard deviation of \$4,401.⁷⁷

51. A true competitive price would reflect the costs of the specific offering, which vary both by the nature of the offering itself (*e.g.*, the level of performance promised in an SLA) and the nature of the customer (*e.g.*, proximity to existing network facilities). The econometric studies do not even attempt to identify such prices. Instead, they focus on estimating the average relationship between competition and prices.

52. Because the studies do not account for the extensive heterogeneity in the costs of serving specific customers and the wide range of service qualities provided, the studies fail to provide a sound basis for regulating BDS prices and risk leading to inefficient outcomes. More generally, the effects of regulation versus competition are asymmetric along at least two dimensions. First, imposing regulatory prices ceilings can block the realization of gains from trade. Given the ability of buyers and sellers to negotiate, unregulated prices make it more likely that a surplus-creating trade will occur. Put differently, there is a fundamental asymmetry when setting regulatory price ceilings. If regulated prices are set too low, then nothing can be done and the opportunity for potentially welfare-enhancing commerce is lost. On the other hand, if regulated prices are set too high, the parties can bargain around them. Second, to the extent that entry will eventually occur in the absence of regulation, the adverse competitive effects that

⁷⁶ *Rysman Revised White Paper*, Table 13.

⁷⁷ *Id.*

regulation seeks to remedy will be transitory. On the other hand, to the extent that regulation deters entry, an initially adverse state of competition will persist.

53. Thus, even if the price regressions were to identify a competitive issue, they would not provide guidance for a potential regulatory regime. In particular, the econometric studies could not be used to identify the competitive price associated with each customer. BDS contracts often include multi-dimensional prices. In addition to monthly recurring charges, some contracts include upfront fees to recover construction costs as well as other valuable contractual terms. Thus, the “competitive price” would need to encompass each of these contractual features. However, the econometric analyses in this proceeding focus only on an “average monthly price.”⁷⁸ In Section IV, we discuss issues with several of the regulatory schemes that commenters in this proceeding have proposed. But it is important to remember that none of the specific proposals is supported by any of the econometric findings.

2. The econometric studies do not identify the number of BDS providers necessary for competition to be effective.

54. As discussed in Section IV.A below, several commenters proposed “Competitive Market Tests” that are based, in part, on a threshold number of competitors that is allegedly necessary to deem a market effectively competitive.⁷⁹ However, the

⁷⁸ See, e.g., *Rysman Revised Paper* at 36 (“Because these prices can swing widely from month to month as charges are delayed and then imposed, the simple average of the monthly bills for a connection is calculated and referred to as the ‘Average Monthly Price.’ It was calculated based upon the number of monthly bills in the dataset.”)

⁷⁹ We repeat for emphasis, that the appropriate standard is not whether there are sufficiently many BDS providers to eliminate market power. Rather, the standard should be whether there are sufficiently many BDS providers that the market functions as well as regulation could be expected to.

econometric analyses in the record cannot provide a reliable basis for determining such a threshold. This is so for two reasons. First, as just discussed above, the studies have not identified a reliable competitive baseline against which to compare actual market performance. Second, even if such a baseline were established, the size of the competitive effects associated with each incremental competitor matters for this determination, and the econometric studies in the record simply do not provide reliable estimates of these magnitudes.

55. To see why the size of the incremental price effects of an additional competitor matters, consider the following hypothetical example. Suppose that a policy maker has reached the tentative conclusion that the presence of four or more BDS providers is sufficient to ensure that a market is effectively competitive. Suppose that the policy maker also has found that going from three to four BDS providers in a market leads to only a small decrease in price. Such a finding would indicate that a threshold of three competitors would yield greater benefits than would a threshold of four competitors. The basis for this conclusion is that, as discussed in Section II above, regulation inevitably imposes costs. Lowering the threshold from three to four in this situation would have little effect in terms of the potential exercise of market power but would save the entire costs of regulation in those markets that would be regulated under a four-provider threshold but not under a three-provider threshold. In other words, the benefits of “deregulating” markets with four BDS providers would very likely far outweigh the costs.

56. The lesson of this example is that the size of the incremental price effects of an additional competitor matters. But, as noted above, the magnitudes of the estimated effects vary widely and often have wide confidence intervals reflecting the statistical imprecision of the estimates. For example, Professor Baker appropriately “call[s] for caution in interpreting relative magnitudes of individual coefficients” and concludes that “[BEGIN HIGHLY CONFIDENTIAL]

[END HIGHLY CONFIDENTIAL].”⁸⁰ Similarly, Professor Kwoka states that his view of the evidence is consistent with the proposition that:⁸¹

[t]he number of ‘effective competitors’ necessary for competition may be on the order of three to five. The exact number likely varies with the strength of the competitive force exerted by each such provider, and that in turn would appear to depend on its proximity to the building where the customer is located and perhaps other factors.

57. As we will discuss in Section IV.A.2 below, several commenters assert that the econometric studies support a finding that four competitors is the right threshold. The econometric estimates do not yield robust evidence that the incremental effect of a fourth BDS competitor substantially reduces prices. Professor Rysman finds that the incremental effect of adding a second or third facilities-based competitor that is in the block but not in the building—an effect that is equivalent to the third or fourth total competitor assuming only one competitor serves the building—is approximately three

⁸⁰ *Baker Supplemental Reply Declaration*, ¶ 7.

⁸¹ *Kwoka BDS Declaration*, ¶ 47.

percent for DS1 and six percent for DS3.⁸² However, because Professor Rysman groups the effect of the two additional facilities-based competitors together, his econometric specification does not provide any estimate of either the incremental effect of a third competitor on prices or the incremental effect of a fourth competitor on prices.

Moreover, the Commission staff's analysis, which replicates Professor Rysman's econometric specification but clusters the standard errors at the census block level, yields the same point estimates, but demonstrates that the incremental effect of the two competitors is not statistically significant as it pertains to DS3.⁸³ Professor Baker's econometric analysis estimates that the incremental price effects of a fourth in-building provider tend to be large and statistically significant for both DS1 and DS3.⁸⁴ However, these effects are also substantially larger than the incremental effects of the second and third in-building competitor—sometimes by a factor of ten—suggesting that they are driven by something other than actual competitive effects (*e.g.*, the unobserved heterogeneity that we discussed above).

58. More broadly, in many cases, the estimated price effects are small even taking the econometric results at face value. For example, Professor Rysman finds that the effect of an incremental facilities-based competitor that can serve a building (*i.e.*, the effect of going from one provider to more than one provider) is to reduce prices for DS1 lines by

⁸² *Rysman Revised White Paper*, Table 19. The incremental effect of the third or fourth total competitor can be calculated by comparing the difference in the coefficient on the “Two or Three Facilities-based Competitors are in the Block But Not the Building” variable to the coefficient on the “One Facilities-based Competitor is in the Block But Not the Building” variable.

⁸³ *WCB Analysis*, Attachment 1, Table 19a, Col. 2.

⁸⁴ *Baker Declaration*, Table 2.

approximately 3.2 percent, a magnitude that he characterizes as “not especially large by the standards of competition analysis.”⁸⁵ Similarly, Professor Rysman examines the incremental effect of an additional potential competitor. For DS1 lines, he finds a less-than-two-percent effect associated with an incremental competitor that is in the census block, but not the building; an incremental three-percent effect for two or three such competitors; and a small negative incremental effect for four or more such competitors.⁸⁶

59. In summary, the econometric studies do not offer a sound or reliable basis for establishing a competitive market test based on a specific number of competitors.

D. THE STUDIES PROVIDE NO EVIDENCE THAT ACTUAL REGULATION WOULD LEAD TO LOWER QUALITY-ADJUSTED PRICES.

60. Even if one were to take those studies purporting to find evidence of market power at face value, they still would not provide evidence that actual—as opposed to idealized—regulation would enhance consumer welfare by either promoting competition or inducing lower quality-adjusted prices. It is well-established in the economics literature that asymmetric information makes it impossible to design a regulatory scheme that accurately mimics competition.⁸⁷ The problems are especially difficult in a marketplace—such as the one for BDS—that comprises multiple suppliers offering a highly customized product subject (absent regulation) to rapid innovation and large

⁸⁵ *Rysman Revised White Paper* at 21-22 and Table 14.

⁸⁶ *Rysman Revised White Paper*, Table 19.

⁸⁷ Mark Armstrong and David E. Sappington (2004), “Towards a Synthesis of Models of Regulatory Policy Design with Limited Information,” *Journal of Regulatory Economics* 26(1): 5-21.

investments. In short, there is a very serious question whether regulation would have any beneficial effect of creating just and reasonable prices.

61. Moreover, as discussed in Section III.A above, BDS services are often priced via bidding competition or processes that replicate the outcome of bidding competition. The costs of providing BDS vary with both the customer and the provider, and bidding competition usually has a winner-take-all outcome, with the lowest-cost provider being the most likely winner. Given these features, one would expect the quality-adjusted price for a given customer to (weakly) decrease as the number of competitors in a well-functioning bidding market increases. Critically, this relationship is expected because an additional competitor represents an additional “draw” from the cost distribution with an associated possibility that the additional draw will constitute the lowest-cost provider. In other words, the more bidders there are, the lower the cost of the lowest-cost bidder is likely to be. Hence, such bidding will generate the empirical pattern that more competitors are associated with lower prices, all else equal. However, the lower price would arise from the availability of a low-cost provider rather than the incremental competitive effect of adding another provider to the market. This distinction has important implications for regulation. In particular, because it would do nothing to lower underlying supply costs, BDS price regulation would *not* achieve the same benefits as attracting a new low-cost entrant. Instead, regulation would simply risk setting price too low and discouraging entry by new competitors, including low-cost competitors.⁸⁸ A

⁸⁸ See, e.g., *Farrell BDS Declaration*, ¶ 67 (“For customers to benefit from regulation in such a market, even in narrow price terms, a regulated price should exceed the lowest

more appropriate policy would be to facilitate entry (*e.g.*, by facilitating access to rights of way or to buildings) rather than force service providers to lower their prices.⁸⁹

62. The dubious nature of the claimed regulatory benefits is even more evident once one considers all of the negative unintended consequences that regulation will very likely trigger, as discussed in the previous section. In summary, even if current prices are not fully competitive, there is no evidence that *ex ante* price regulation would improve consumer welfare or promote competition. Indeed, there are many reasons to expect the effect to be the opposite.

IV. COMMENTERS' PROPOSED REGULATORY SCHEMES WOULD HARM CONSUMERS BY WEAKENING AND DISTORTING COMPETITION.

63. INCOMPAS, Joint CLECs, Sprint, and Verizon all submitted comments in which they sketch outlines for a new BDS regulatory framework.⁹⁰ Although there are several differences, these proposals share key elements of proposed structure. Each of the proposals contains recommendations regarding:

- the granularity of analysis and rules for determining whether a given market is “competitive” or “non-competitive;”
- the set of BDS providers to which price limits should apply in non-competitive markets;

cost (*i.e.*, long-run cost, to ensure supply and compensate the supplier) but be well below the second-lowest cost.”)

⁸⁹ *Farrell BDS Declaration*, ¶ 29.

⁹⁰ *INCOMPAS Comments*; *Joint CLECs Comments*; *Sprint Comments*; Verizon; *INCOMPAS-Verizon Letter*; Ex Parte Letter from Kathleen Grillo, Verizon, and Chip Pickering, INCOMPAS, to Marlene Dortch, FCC, WC Docket No. 05-25 & RM-10593, filed Apr. 7, 2016.

- a process for limiting the prices of packet-based BDS for bandwidths and geographic areas that are deemed to be non-competitive; and
- a process for limiting the prices of TDM BDS.

64. More important, these proposals all share several other key characteristics: they are incomplete and vague, they lack grounding in sound analysis of the evidence, and they can be expected to harm consumers by weakening and distorting competition. As a consequence, all of the proposals can be expected to undermine the provision of innovative and/or high-quality services and to reduce investment by incumbents and—more important—entrants.

A. COMPETITIVE MARKET TEST

65. The *FNPRM* proposed a regulatory scheme that “will apply depending on the classification of a specific market as either competitive or non-competitive.”⁹¹ Although they disagree in certain important respects, INCOMPAS, Joint CLECs, Sprint, and Verizon all propose competitive market tests with two prongs. The first prong categorizes certain bandwidths as either competitive or non-competitive. The second prong categorizes geographic areas as either competitive or non-competitive based on whether the number of competitors in a given area is above or below a specified threshold.

66. At the outset, it is critical to note that none of the commenters offers any semblance of a sound cost-benefit analysis to determine the appropriate thresholds. Instead commenters assume that regulation functions perfectly to generate benefits while

⁹¹ *FNPRM*, ¶ 260.

imposing no costs. This assumption is manifestly false. Consequently, all four sets of proposed screens are biased toward finding a lack of effective competition and imposing ex ante price regulation. More broadly, this bias is inherent in the *FNPRM*'s approach of proposing a regulatory framework that would depend on "a new Competitive Market Test" that would "determine whether market power is present."⁹² From the perspective of the economics of consumer welfare, the relevant question is not whether market power is present; rather, the question is whether the benefits of regulation are greater than the costs for the market under consideration. And for all of the reasons discussed above, the exercise of significant market power is a necessary—but not sufficient—condition for regulation to enhance consumer welfare.

1. Bandwidth Thresholds

67. INCOMPAS and Verizon ask the Commission to declare that the provision of BDS at or below 50 Mbps is not subject to effective competition, while Sprint proposes adopting the same threshold but in the form of a rebuttable presumption that there is no effective competition in a given area.⁹³ Joint CLECs take the most aggressive view in favor of regulation, arguing that BDS at or below 100 Mbps should be classified as non-competitive in all geographic areas.⁹⁴ In addition, INCOMPAS, Joint CLECs, and

⁹² *Id.*

⁹³ *INCOMPAS Comments* at 6; *Verizon Comments* at 3; *Sprint Comments* at 2 and footnotes 17 and 61.

⁹⁴ *Joint CLECs Comments* at 7.

Verizon all ask the Commission to declare that the provision of BDS above 1 Gbps is subject to effective competition in all geographic areas.⁹⁵

68. INCOMPAS appears to justify the 50 Mbps threshold based on its assertions that competitive providers would not find it economic to build to a location with demand for BDS at bandwidths of only 50 Mbps or less and, thus, there are unlikely to be four or more providers willing to offer BDS below 50 Mbps at any given location—a number that INCOMPAS asserts is necessary for an area to be competitive.⁹⁶ INCOMPAS never explains why, if the data show that there are, in fact, four or more providers offering BDS below 50 Mbps in a given area, the Commission would ignore that fact.⁹⁷ Although Sprint also argues that there is unlikely to be competition at lower bandwidths, its proposal to have a fact-based safety valve approach clearly is less harmful in this regard than is INCOMPAS's.

69. Joint CLECs argue that there is little actual competition below 100 Mbps and no reason to believe that “reasonably efficient competitors” would extend their facilities to serve new customers.⁹⁸ But Joint CLECs do not explain how this assertion is consistent with the econometric findings of Professor Rysman and Commission staff that *potential*

⁹⁵ *INCOMPAS Comments* at 6; *Joint CLECs Comments* at 7; *Verizon Comments* at 3.

⁹⁶ *INCOMPAS Comments* at 6.

⁹⁷ And, as I discuss next, INCOMPAS also fails to provide any evidence that four providers is an appropriate threshold for determining that market is competitive.

⁹⁸ *Joint CLECs Comments* at 46.

competition has a significant effect on DS1 and DS3 prices and, indeed, for DS3 has a larger impact on prices than does actual competition.⁹⁹

70. Verizon cites Professor Rysman's finding that providers may *lack* market power in the supply of BDS with bandwidth in excess of approximately 50 Mbps as alleged support for its proposal to declare services below 50 Mbps to be non-competitive and above 1 Gbps to be competitive.¹⁰⁰ Verizon offers no explanation of how this finding could possibly support Verizon's call for the potential regulation of BDS with bandwidth between 50 Mbps and 1 Gbps.

71. In sum, commenters do not provide sound arguments or data in support of their proposed bandwidth thresholds.

2. Provider Thresholds

72. INCOMPAS, Joint CLECs, Sprint, and Verizon all propose requiring the presence of four or more BDS providers in a given census block in order for the supply of BDS to be deemed subject to effective competition in that area.¹⁰¹ These commenters offer varying statements of what conditions a BDS provider would have to satisfy in order to qualify as a competitor for this purpose. By contrast, Drs. Israel, Rubinfeld, and Woroch argue that, to the extent that the Commission chooses to implement a granular competitive market test, it should deem a census tract to be "competitive" for services offering 45 Mbps or lower bandwidth "if two or more facilities-based providers are

⁹⁹ *Rysman Revised White Paper*, Tables 17 and 18; *WCB Analysis*, Tables 17a and 18a.

¹⁰⁰ *Verizon Comments* at 8-9.

¹⁰¹ *INCOMPAS Comments* at 6-7; *Joint CLECs Comments* at 9; *Verizon Comments* at 3.

located within 2,000 feet of the census tract.”¹⁰² And Professor Farrell concludes that regulation should be applied only in markets that are monopolized.¹⁰³

73. INCOMPAS cites no evidence to support its claim that four providers is an appropriate threshold, while Verizon cites Professor Rysman’s analysis for the proposition that having four or more competitors lowers DS3 prices by at least 15 percent relative to the monopoly level.¹⁰⁴ In doing so, Verizon is making the wrong comparison. As discussed in Section III.C.2 above, one should consider the incremental effects of each additional provider and the econometric studies are not up to that task. Moreover, Verizon attempts to extrapolate the results of Professor Rysman’s study for low-bandwidth BDS to higher bandwidth BDS even though the study itself does not support such an extrapolation and even though Verizon acknowledges “the Commission’s prior finding that ‘under certain conditions duopoly will yield a competitive outcome.’”¹⁰⁵ Verizon also admits that “[i]mposing price constraints where they are not needed could discourage potential entrants.”¹⁰⁶ According to Verizon, “analyzing facilities-based competition by census block is conservative [i.e., will apply regulation to too many markets] because, if anything, it undercounts the facilities that are capable of disciplining

¹⁰² *IRW Second White Paper* at 27.

¹⁰³ *Farrell BDS Declaration* at 16.

¹⁰⁴ *Verizon Comments* at 12-13 (citing *Rysman White Paper*, Table 19).

¹⁰⁵ *Verizon Comments* at 12-13.

¹⁰⁶ *Verizon Comments* at 12-13.

prices within each block.”¹⁰⁷ But seen in the light of the considerable costs of regulation in this marketplace, this conservatism is a vice, not a virtue.

74. Even if one thought that at least four BDS providers were necessary for competition to be effective, the fact that a building does not have four or more competitor connections should not be taken as evidence of a lack of competition. Given that there are costs triggered specifically to serve a customer at a given location, there are likely to be few buildings with sufficiently many customers with sufficient demand to justify the construction of four or more (redundant) facilities.¹⁰⁸ The appropriate question for assessing competition is whether there are multiple firms that are willing and able to compete to obtain a BDS buyer’s patronage, not whether those firms already have connections to the buyer’s location.¹⁰⁹

75. Recognizing the nature of bidding competition in BDS markets, Verizon’s measure “considers all fiber deployed within a census block, even if that fiber has not yet been connected directly to a building.”¹¹⁰ By contrast, INCOMPAS argues that the presence of fiber facilities is not enough to qualify as a source of competition but

¹⁰⁷ *Verizon Comments* at 11.

¹⁰⁸ In particular, the *FNPRM* shows that only one percent of buildings have four or more providers. (*FNPRM*, Table 4.)

¹⁰⁹ For example, taken at face value, Professor Rysman’s econometric results indicate that facilities-based competitors that are in the census block but not in a building have a statistically significant effect on ILEC BDS prices. (*Rysman Revised White Paper*, Table 17.)

¹¹⁰ *Verizon Comments* at 11. Verizon does so in part because the “approach .. appropriately takes into account both actual and potential competition.” (*Id.*)

INCOMPAS does not identify what in its view should count.¹¹¹ Joint CLECS and Sprint would count a BDS provider toward the threshold only if it has deployed a connection within the census block.¹¹² Sprint claims that counting providers that have deployed at least one connection in a census block is likely to overstate competition because “entry by competitive providers who must extend their networks across even small distances would not be timely, likely, and sufficient enough to discipline rates, terms, and conditions—especially where the provider only has transiting fiber nearby, and even when the provider has an existing node in the census block.”¹¹³ This claim demonstrates a misunderstanding of bidding competition.¹¹⁴ Sprint offers no explanation for how its position is consistent with Professor Rysman’s finding that the presence of nearby BDS providers affects the prices ILECs charge for BDS below 45 Mbps.¹¹⁵ Instead, Sprint ignores these findings and points to the inconclusiveness of his results for higher bandwidths.¹¹⁶ Sprint also cites Professor Baker’s assertion that potential competition

¹¹¹ *INCOMPAS Comments* at 8.

INCOMPAS apparently views the following fact as support for its argument: “there are four or more competitors with fiber in over 540,000 census blocks in which no customer purchased even a single Business Data Service circuit as of 2013.” (*Id.*) This fact may instead demonstrate that there are census blocks that lack potential BDS customers but that networks have to traverse to serve other customers.

¹¹² *Joint CLECs Comments* at 9; *Sprint Comments* at iii.

¹¹³ *Sprint Comments* at 9-10.

¹¹⁴ See discussion in Section III.A.

¹¹⁵ *Rysman Revised White Paper*, Table 17.

¹¹⁶ *Sprint Comments* at 12 (“Dr. Rysman himself describes his results as ‘inconclusive’ and ‘muddled and conflicting.’”) citing *Kwoka BDS Declaration*, ¶ 22, which, in turn, cites *Rysman White Paper* at 212 (which discusses Dr. Rysman’s finding for BDS above 45 Mbps).

affects prices less than an actual competitor.¹¹⁷ However, his own econometric studies in many cases find the opposite, raising very serious issues of reliability.¹¹⁸

76. Sprint also points to [BEGIN HIGHLY CONFIDENTIAL]

[END

HIGHLY CONFIDENTIAL].¹¹⁹ However, even taken at face value his results provide no meaningful support for this threshold. Specifically, Dr. Frentrup finds that [BEGIN HIGHLY CONFIDENTIAL]

[END HIGHLY CONFIDENTIAL].¹²⁰ There is no sound reason to bear the costs of regulation (*e.g.*, the distortions in service quality that it would trigger) in the hope of lowering price by [BEGIN HIGHLY CONFIDENTIAL]

[END HIGHLY CONFIDENTIAL].¹²¹

B. SCOPE OF EX ANTE PRICE REGULATION IN NON-COMPETITIVE MARKETS

77. If the Commission chooses to impose ex ante BDS price regulation, the scope of that regulation will be a critical element of the scheme.

¹¹⁷ *Sprint Comments* at 12 (citing *Baker Declaration*, ¶¶ 80-82).

¹¹⁸ See, *e.g.*, *Baker Declaration*, Table 3 ([BEGIN HIGHLY CONFIDENTIAL]

[END

HIGHLY CONFIDENTIAL].).

¹¹⁹ *Sprint Comments* at 24 citing *Frentrup Declaration*, ¶ 10.

¹²⁰ *Sprint Comments* at 24 citing *Frentrup Declaration*, ¶ 10.

¹²¹ It is important to recognize that the harms from distortions in quality incentives resulting from market-wide regulation would not diminish as competition increases. Indeed, the harms might well grow larger.

1. If the Commission is going to impose regulation, it should recognize the asymmetric positions of market participants.

78. The *FNPRM* asks whether ex ante price regulation “[s]hould... only apply to the largest BDS provider in the non-competitive market”¹²² or “to any firm in the non-competitive market that has a near ubiquitous network in the local territory and rights of way”?¹²³

79. In answering this question, it is important to recognize that there are significant asymmetries in the market positions of different types of BDS providers:

- *Incumbent LECs*: As the Commission recognizes:¹²⁴

[i]ncumbent LECs are the primary facilities-based suppliers of legacy TDM services and increasingly provide packet-based BDS. Because of their historical position as the monopoly provider of telecommunications services and the carrier of last resort, the incumbent LECs’ networks are ubiquitously deployed to connect residential and business locations throughout their respective incumbent service territories.

In 2013, ILECs (*e.g.*, AT&T, Verizon, CenturyLink, and Frontier) accounted for approximately 82 percent of BDS revenues.¹²⁵

- *Non-Cable Competitive LECs*:¹²⁶ Non-cable CLECs have emerged in the past 25 years and have focused on serving urban areas. In 2013, competitive wireline

¹²² *FNPRM*, ¶ 308.

¹²³ *FNPRM*, ¶ 309.

¹²⁴ *FNPRM*, ¶ 52.

¹²⁵ *FNPRM*, Figure 9. See also Paul de Sa et al., “U.S. Telecom: Business Data Services/Special Access, a Nine-Chart Primer for Cable and Telco Investors,” *Bernstein*, June 2016 (hereinafter *Bernstein*), Exhibit 4.

telcos (*e.g.*, Level 3 and XO) accounted for approximately 13 percent of BDS revenues.¹²⁷

- *Cable Providers:* Most cable providers have emerged as meaningful suppliers of BDS only in the past ten years, facilitated by investments to in new fiber networks to serve business customers.¹²⁸ In 2013, cable providers accounted for approximately 5 percent of BDS revenues.¹²⁹

80. Even if the Commission determines that it is necessary to regulate the market leader, extending regulation to competitive providers is unnecessary, and the Commission should allow competitive firms to compete on the merits without directly subjecting them to regulation. Extending regulation to competitive providers would impose costs without generating incremental benefits.¹³⁰ This conclusion follows from the fact that, if the market leader alone is regulated, then entrants and other providers can attract business only if they offer services that buyers find more attractive than the incumbent's regulated offerings. Competition thus extends the reach of regulation in a way that does not as strongly create adverse incentives as would market-wide regulation (*i.e.*, regulation weakens incentives for investment, innovation, and the provision of high-quality

¹²⁶ The largest facilities-based non-cable CLECs are Level 3 Communications, LLC, Zayo Group, LLC, U.S. TelePacific Corp., and Birch Communications, Inc.. (*FNPRM*, ¶ 58.)

¹²⁷ *FNPRM*, ¶ 218. See also *Bernstein*, Exhibit 4.

¹²⁸ *FNPRM*, ¶ 59.

¹²⁹ *FNPRM*, ¶ 218. See also *Bernstein*, Exhibit 4.

¹³⁰ See Section II for a discussion of the costs of regulation.

services). For example, competition would allow entrants and other providers greater flexibly to design and sell new product offerings that appeal to consumers.¹³¹

81. As the Commission has recognized, competition is preferable to regulation.¹³² Given that it is unnecessary to regulate cable providers to achieve the Commission's goals, application of the principle of minimal regulation implies that the Commission should not impose rate regulations on cable providers and other competitive providers.

82. Lastly, it is important not to misconstrue the concept of "technology-neutral regulation" with the equal treatment of unequal competitors. If two BDS providers have very different market positions and also happen to use different technologies to provide service, treating them differently for purposes of regulation based on differences in their market positions does *not* constitute a violation of technology neutrality.

2. All Competitors in Non-Competitive Markets

83. Subject to a vague exception for entrants, Verizon proposes that all providers of packet-based BDS be subject to rate regulation in areas labeled as non-competitive.¹³³

Verizon concedes that:¹³⁴

¹³¹ This principle might also be extended to the leading competitor or dominant firm that is subject to ex ante price regulation. Under an anchor approach, new offerings would be unregulated, although service provider would be forced to continue offering old products.

¹³² *FNPRM*, ¶ 5 ("First, competition is best. Where competition exists, there is little for government to do except to maintain the traditional oversight of telecommunications services, because competition is the single best way of ensuring that customers benefit.")

¹³³ *Verizon Comments* at 17. Under Verizon's proposal, entrants would be exempted from regulation "for some period of time." (*Verizon Comments* at 4 and 20.) But there is no statement of how an entrant would be defined or for how long the exemption would apply. Given that BDS providers, especially entrants, construct customer-specific facilities to compete, such a policy would diminish entry and weaken competition.

¹³⁴ *Id.*

Ordinarily, if there is a dominant provider of a service in a market, subjecting only that provider in that market to the benchmarks would ensure just and reasonable rates. If the dominant provider's rates are regulated, competitive providers would be expected to match or undercut those regulated rates in order to attract customers. [Footnote citing *Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations*, First Report and Order, 85 FCC 2d 1, ¶¶ 79, 88 (1980).]

Yet, Verizon seeks to overturn this principle on the grounds that rate regulation should be concerned with more than “the availability of just and reasonable rates.”¹³⁵ Specifically, Verizon argues that pervasive, market-wide rate regulation is needed to ensure that BDS providers do not avoid what it asserts are their common carrier obligations, particularly when done for anticompetitive reasons.¹³⁶ We first note that several cable company commenters have stated that they generally provide BDS under private carriage, not common carriage.¹³⁷ Moreover, even where competitive providers do offer common carrier services, Verizon offers no explanation of why the direct enforcement of the common carrier obligations it has in mind would be insufficient, either alone or combined by with antitrust enforcement.¹³⁸ Contrary to what Verizon claims, benchmark rate regulation is not equivalent to a formal complaint proceeding. The latter—at least if done correctly—would involve a detailed examination of the relevant evidence particular to

¹³⁵ *Verizon Comments* at 17.

¹³⁶ *Verizon Comments* at 18.

¹³⁷ Comments of the National Cable & Telecommunications Association, June 28, 2016 (hereinafter *NCTA Comments*) at 11; *Charter Comments* at 18; *Comcast Comments* at 15-16.

¹³⁸ Several providers, including Charter, do not agree that BDS is a common-carrier service. Solely for purposes of assessing Verizon's justification, I will assume that Verizon's assertion is correct.

the circumstances of the complaint.¹³⁹ Ex ante, benchmark rate regulation would have more limited and costly protections against finding harm where none has occurred.

3. Leading Competitor

84. Joint CLECs propose that only the *Leading Competitor* be subject to direct price ceilings. Although the focus on regulating a market leader rather than all service providers is an important step in the right direction, this proposal is vague, incomplete, and potentially very seriously flawed.¹⁴⁰ For example, other than identifying ILECs as the current market leader in all markets, Joint CLECs fail to specify the measure or measures that would be used to determine what would trigger a BDS provider's designation as a Leading Competitor. Would there be a threshold based on connections, revenues, or some other measure within the defined test area?

85. Another flaw in Joint CLECs' proposal is that it does not identify any sort of monopoly power threshold. This is a critical shortcoming given that Joint CLECs propose that the Commission identify new market leaders as markets continue to evolve. Specifically, Joint CLECs propose that "[i]f another class of competitors (or perhaps an individual competitor) emerges as a more powerful competitor than incumbent LECs in some or all Business Data Services markets, that other class of competitors would become the leading competitor" and thus subject to rate regulation.¹⁴¹ By creating a framework that would impose ex ante rate regulation on whichever BDS provider in a

¹³⁹ *Verizon Comments* at 19.

¹⁴⁰ We write "potentially" because the proposal is vague and incomplete, and it is thus impossible to know exactly what is being proposed.

¹⁴¹ *Joint CLEC Comments* at 58.

non-competitive market area was the most successful at that time, Joint CLECs' proposal would act as a tax on success and thus could be expected to deter investments and competition that could otherwise benefit consumers.¹⁴² This conclusion follows from the fact that, by competing successfully, a BDS provider would risk triggering imposition of ex ante regulation on itself, with the attendant costs.

86. There is no good reason to impose regulation and distort investment incentives simply because one firm has a larger market share than any other. For example, suppose there were three BDS providers with market shares of 33, 33, and 34 percent. It would very likely make little sense to regulate the leading competitor (as measured by market share) on the grounds that it is a dominant provider or that other firms cannot compete successfully. Moreover, if the Commission is going to contemplate imposing regulation, it should take market dynamics into account in assessing the strength of competition—the fact that there would be a new leader would itself be an indication of the strength of competition and the attenuation of any justification for ex ante price regulation. As a general matter, declaring one company to be non-dominant does not require finding another company to be dominant.¹⁴³

87. The shortcomings of Joint CLECs' approach are particularly apparent in geographic areas with few BDS customers. The majority of census blocks that had any

¹⁴² There are also troubling questions about what Joint CLECs mean when they refer to a “class” of providers constituting Leading Competitors. Providers do not compete as classes, they compete as individual suppliers.

¹⁴³ See, e.g., *Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier*, Order, 11 FCC Rcd 3271 (1995) (reclassifying AT&T as a non-dominant carrier without classifying another carrier as dominant).

BDS customers in 2013 had only one BDS customer each, and less than 30 percent had three or more customers.¹⁴⁴ Thus, utilizing census blocks as market areas will frequently lead to situations where whichever firm obtains the unique customer's business will be found to be the leading competitor, so that the designation of leading competitor would flip any time that customer chose a different provider. It makes little economic sense to treat as a monopolist an entrant that has successfully competed to attract a customer away from an incumbent BDS provider. Moreover, a provider that was contemplating whether to serve the first BDS customer in a given census block would face the threat of regulation, which would undermine the provider's incentive to invest and enter.

C. PROPOSED EX ANTE PRICE REGULATION OF PACKET-BASED BDS

88. As noted above, INCOMPAS, Joint CLECs, Sprint, and Verizon all propose subjecting TDM and packet-based BDS to different regulatory regimes. Verizon recommends the application of benchmarks to packet-based services in non-competitive areas.¹⁴⁵ The benchmarks would account for characteristics "such as speed, term length, and class of service."¹⁴⁶ Joint CLECs state a preference for price caps but would support a regulatory regime under which "the Commission would need to apply the benchmark approach to a subset of services whose prices are supposed to constrain the prices for

¹⁴⁴ In the 2013 data, approximately 52 percent (260,681 out of 498,577) census blocks with at least one BDS customer had only one BDS customer, and approximately 72 percent (359,432 out of 498,577) had only one or two BDS customers. (Calculations based on 2013 FCC data collection.)

¹⁴⁵ *Verizon Comments* at 4 and 17.

¹⁴⁶ *Verizon Comments* at 4.

other services (similar to an anchor approach).”¹⁴⁷ That said, Joint CLECs identify problems with this approach.¹⁴⁸ Under Sprint’s proposal, the Commission would “designate safe harbor prices that are presumptively just and reasonable for various...bandwidths.”¹⁴⁹ A different safe harbor would be calculated “for each combination of bandwidth, service term, and service quality level that the incumbent LEC offers under a contract in relation to packet-based BDS services.”¹⁵⁰

89. Below, we assess several components of these proposed schemes from perspective of their effects on competition and consumer welfare.

1. Initial Regulated-Rate Levels

90. Commenters offer several proposals for setting the initial parameters for ex ante rate regulation. In thinking about setting ex ante price levels, it is critical to recognize that there is an asymmetrical social loss function. If the Commission sets prices too high, then there is a marginal loss of consumer surplus, while providers gain—at least until competition pushes prices down to reasonable levels. By contrast, if the Commission restricts prices to levels that are too low, there will be no trade (*i.e.*, providers will not make the investments necessary to offer BDS to consumers), so that all of the total potential surplus will be lost.

¹⁴⁷ *Joint CLECs Comments* at 11.

¹⁴⁸ *Id.*

¹⁴⁹ *Sprint Comments* at 66. See also *Sprint Comments* at v, and 2.

¹⁵⁰ *Sprint Comments* at 69.

91. Verizon states that the Commission has not collected data suitable for deriving benchmarks, and Verizon proposes that the Commission collect data from each ILEC “regarding the average rates it actually charges in non-competitive areas for each type of Ethernet service it offers.”¹⁵¹ Under Verizon’s proposal, the Commission would then use some unspecified process utilizing unspecified data “to determine the appropriate level of price reduction needed to ensure that rates reflect healthy levels of competition.”¹⁵² INCOMPAS is even vaguer regarding its proposed benchmarks.¹⁵³

92. Verizon and INCOMPAS put forth such vague proposals that it is impossible to fully evaluate them. However, given the complexities of the BDS marketplace, there is a substantial risk that the prices for some customers and some services would be set below competitive levels. Verizon’s proposed regulatory scheme could thus be expected to attenuate incentives to invest in facilities and to provide high-quality services. Verizon itself acknowledges the threat to entry and investment posed by regulatory ceilings that are set too low, but its proposal does not reflect this possible harm.¹⁵⁴

93. According to Joint CLECs:¹⁵⁵

[T]he Commission should require that the incumbent LECs file with the Commission the prices they charge their five largest wholesale and their

¹⁵¹ *Verizon Comments* at 21.

¹⁵² *Verizon Comments* at 22.

¹⁵³ *INCOMPAS Comments* at 12.

¹⁵⁴ *Verizon Comments* at 21. Verizon proposes a challenge process whereby a BDS provider could set rates above the relevant benchmarks subject to a review process and possible true up. (*Id.* at 4 and 23-24.) However, as discussed in Section IV.C.4 below, this process would be costly and uncertain, and thus it would not fully ameliorate the harm to investment incentives caused by unduly low benchmarks.

¹⁵⁵ *Joint CLECs Comments* at 12-13. See also, *id.* at 71.

five largest retail customers. The weighted average of those prices in each non-competitive area would comprise the incumbent's current prices. Those current prices would then be reduced by the amount by which regression analyses have shown incumbent LECs reduce their Business Data Services prices in response to the presence of competitors, which is at least 19.7 percent.

This proposal is flawed in several important respects. First, it ignores the fact that BDS providers incur different costs to serve different customers. Thus, the weighted average prices of the largest customers may not reflect the underlying costs associated with serving other customers. Second, large customers may already have been receiving competitive prices. This pattern is likely because BDS providers have greater incentives to build out their facilities to larger customers. Thus, using these prices as the starting point for applying a regression adjustment could result in regulated prices below competitive levels (even if, counterfactually, the regression adjustment were reliably calculated for the average customer). The third flaw is closely related to the second one: the 19.7 percent figure is drawn from an estimate based on a sample that includes all customers, not just large ones.¹⁵⁶ Thus, application of this percentage is inappropriate.

94. Sprint proposes initially setting the prices that delineate its safe harbor equal to 80 percent of the ILEC's 2016 rates (calculated as average monthly recurring revenues per packet-based BDS circuit in non-competitive areas).¹⁵⁷ The way Sprint would calculate

¹⁵⁶ *Joint CLECs Comments* at 71 (citing *Baker Declaration*, ¶ 63). Professor Baker's primary estimation includes all customers, and there is no proxy for customer size.

¹⁵⁷ *Sprint Comments* at 66 and 69. Sprint points to Dr. Kwoka's finding that "the extent of supracompetitive prices may lie in a range at least as high as 15-20 percent." (*Id.* at 68 quoting *Kwoka BDS Declaration* ¶¶ 46-47 (which notes that "[BEGIN HIGHLY CONFIDENTIAL]

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[END

the safe harbor is seriously flawed. First, Sprint's proposed safe harbor prices appear to be based solely on ILEC data even though Sprint proposes to apply these safe harbor prices to all BDS providers for packet-based BDS under 50 Mbps or in census blocks that do not pass its proposed Competitive Market Test.¹⁵⁸ ILECs have different costs and may pursue different business strategies than competing BDS providers. It makes little economic sense to regulate competing BDS providers as if they had ILECs' cost structures and had adopted ILECs' business strategies. As discussed above, applying ex ante price regulation to non-ILEC BDS providers can be expected to harm competition. Basing this ex ante price regulation on ILEC rates would be especially harmful to competition and consumers because doing so would disadvantage BDS providers that sought to offer services having higher quality levels along dimensions not captured by the safe harbors or benchmarks.

95. A second flaw in the way Sprint would calculate the safe harbor price is that it would be based only on average monthly recurring charges. BDS providers often levy other charges, such as up-front charges to cover some or all of the expenses incurred to extend a BDS provider's network to customers' locations. A policy of regulating some components of price but not others would not promote competition and consumer welfare. Instead, such a policy would distort competition and create incentives to restructure rates to game the system.

96. Verizon's proposal to allow BDS providers to levy unregulated special construction charges when new network facilities are required to serve a customer is

¹⁵⁸ *Sprint Comments* at 67.

similarly flawed.¹⁵⁹ A BDS provider and its customer may jointly prefer to amortize construction costs in the form of higher recurring charges. Short of imposing cost-of-service regulation, how would the Commission distinguish such charges from violations of any ex ante price regulation that applied to other recurring charges?

2. Rate Adjustments Over Time

97. Joint CLECs would have the Commission develop a cost model to be used to determine future price adjustments.¹⁶⁰ Joint CLECs do not address the important question of how the Commission would account for the variation in costs across BDS providers, services, and customers. Verizon recommends that its proposed benchmarks be updated either using an X-factor based on publicly available data or by making reference to price changes in competitive areas.¹⁶¹ The latter process would completely fail to account for the factors that determine why some areas are competitive and others are non-competitive. Although one would expect some factors to be common across areas, others might be very different. Lastly, INCOMPAS and Sprint propose application of a 4.4-percent annual adjustment factor.¹⁶² We address the use of a 4.4-percent X-factor below when discussing the regulation of TDM BDS.

3. Challenge Procedures

98. Under Sprint's safe-harbor proposal, a BDS customer could challenge a price that was at or below the relevant safe harbor level, while a BDS provider could seek approval

¹⁵⁹ *Verizon Comments* at 19-20.

¹⁶⁰ *Joint CLECs Comments* at 13.

¹⁶¹ *Verizon Comments* at 22.

¹⁶² *INCOMPAS Comments* at 12; *Sprint Comments* at 66.

of a price above the corresponding safe harbor level.¹⁶³ By undermining its own safe harbor, Sprint’s proposed challenge process would create significant uncertainty and, thus, diminish providers’ investment incentives. Even if it priced at or below the safe harbor, a BDS provider could not be sure what price it ultimately would receive for its services.¹⁶⁴ The problem would be compounded by Sprint’s proposal that “[i]f a purchaser needed the service before the Commission’s review was completed, it also should have the option of executing a service agreement under protest.”¹⁶⁵ The resulting uncertainty and the nature of the timing would be especially problematical because competitive BDS providers often have to make customer-specific investments to extend their network facilities to serve new customers. The proposed challenge process would also risk becoming de facto cost-of-service regulation, which has well-established problems.¹⁶⁶

99. Verizon proposes a challenge process within its benchmark regulation scheme that is similar to Sprint’s.¹⁶⁷ The problems that would be generated by the challenge processes are also similar. By allowing customers to challenge prices that have been set below benchmark levels—and to do so for unspecified reasons—Verizon’s challenge process would also create uncertainty and, thus, undermine BDS investment incentives,

¹⁶³ *Sprint Comments* at 71-72.

¹⁶⁴ *Sprint Comments* at 71 (“If the FCC ultimately concluded that the challenged rate is unlawful, the seller would have to reduce its offered price to the level deemed reasonable by the Commission.”).

¹⁶⁵ *Sprint Comments* at 72.

¹⁶⁶ See, e.g., Sappington and Weisman (2010) at 230.

¹⁶⁷ *Verizon Comments* at 4 and 23-24.

especially where the investments constitute sunk costs triggered solely or primarily to serve a specific customer.¹⁶⁸ And, as would Sprint's proposal, Verizon's recommended challenge process would risk becoming de facto cost-of-service regulation, with the attendant administrative burdens and unintended consequences.

4. Disclosure Requirements

100. As described above, applying ex ante rate regulation to all competitors in a market deemed not to be effectively competitive would needlessly impose costs that would very likely outweigh any benefits. The ill effects of such regulation would be made worse by Sprint's proposal that all BDS providers in non-competitive markets would have to publicly disclose their rates.¹⁶⁹ Disclosure by competitive BDS providers would be expected to discourage entry because it would be more difficult for an entrant to undercut an ILEC's pricing in order to attract customers.

D. PROPOSED EX ANTE PRICE REGULATION OF TDM BDS

101. INCOMPAS, Joint CLECs, Sprint, and Verizon propose that TDM-based services remain subject to price caps.¹⁷⁰ TDM is a legacy technology, and there is thus less

¹⁶⁸ Verizon claims that the Commission could resolve challenges in 60 days, but Verizon offers no assessment of how frequent such challenges would be or what resources would be required to resolve them. (*Verizon Comments* at 23.) Its proposal to limit the categories of evidence risks denying customers and service providers alike due process. (*Id.*)

¹⁶⁹ *Sprint Comments* at 68-70.

¹⁷⁰ *INCOMPAS Comments* at 10; *Joint CLECs Comments* at 11-12; *Sprint Comments* at 45-46; *Verizon Comments* at 4 and 15.

Although it is not entirely clear from their filings, INCOMPAS, Joint CLECs, Sprint, and Verizon appear to intend TDM price caps to be applied solely to ILECs, and they justify the proposed differences in the regulation of TDM and packet-based BDS, in part, on the fact that a price-cap regime for ILEC-provided TDM BDS already exists. *INCOMPAS*

concern with maintaining incentives for future investments.¹⁷¹ However, this fact does not imply that there is no reason to be concerned with investment incentives when regulating TDM BDS prices. Although TDM is a legacy technology, its prices can affect migration to—and, thus, investment in—modern packet-based BDS. Specifically, regulated TDM BDS prices that are set too low will create incentives for customers to utilize TDM BDS even when packet-based BDS is more efficient. Faced with artificially reduced demand for packet-based BDS, service providers will have diminished incentives to invest in packet-based BDS. Although it calls for capping TDM BDS prices, Verizon acknowledges the potential harm from doing so.¹⁷²

102. INCOMPAS, Joint CLECs, Sprint, and Verizon all call for substantial re-setting of the price caps for TDM-based services. Sprint proposes reducing the existing price caps by between 25.2 and 44.7 percent.¹⁷³ INCOMPAS, Joint CLECs, and Verizon do not specify the magnitudes of their proposed cap re-setting.¹⁷⁴ INCOMPAS, Joint CLECs, Sprint, and Verizon also call for ongoing reductions in the regulated rates for

comments at 10; Joint CLECs Comments at 57-58; Sprint Comments at 42, 45-46; Verizon Comments at 15. It should be noted that there would be many problems associated with creating a new price cap regime for non-ILEC BDS providers.

¹⁷¹ Moreover, Schwartz and Mini argue that the existing TDM facilities were largely financed under a regulated monopoly regime. (*Schwartz-Mini BDS Declaration* at 6-7.)

¹⁷² *Verizon Comments* at 15.

¹⁷³ *Sprint Comments* at v and 2.

¹⁷⁴ *INCOMPAS Comments* at 10-11; *Joint CLECs Comments* at 12; *Verizon Comments* at 15.

TDM-based services. Specifically, INCOMPAS, Joint CLECs, and Sprint would impose an initial X-factor of at least 4.4 percent, while Verizon does not specify a number.¹⁷⁵

103. Verizon argues that price caps should be updated to include the effects of competition using studies such as the *Rysman White Paper* to do so.¹⁷⁶ In contrast, Sprint ostensibly based its proposal on the work of Professor Sappington and Mr. Zarakas.

INCOMPAS cites no analysis, data, or study to support its recommended X-factor.

However, the specific value it recommends and its conceptual approach to re-setting the caps (and indeed specific sentences in its comments) sound similar to those proposed by Sappington and Zarakas.

104. Because they provide the most extensive analysis of the initial adjustment and subsequent X-factor, we focus on Sappington and Zarakas in our reply declaration. We will not comment on their methodology for estimating productivity gains other than to note that their results are disputed by Drs. Mark E. Meitzen and Philip E. Schoech.¹⁷⁷

Our focus is on the underlying rationale for Professor Sappington and Mr. Zarakas's price cap "re-set." There are two fundamental flaws with their approach, which recommends re-setting price caps to account for differential productivity gains during the time that the caps were based on the assumption that there were no such differential gains.¹⁷⁸

¹⁷⁵ *INCOMPAS Comments* at 11 *Joint CLECs Comments* at 12; *Sprint Comments* at v and 2; *Verizon Comments* at 15-16.

¹⁷⁶ *Verizon Comments* at 15.

¹⁷⁷ *Meitzen and Schoech Paper*.

¹⁷⁸ These flaws are in addition to any issues with the data analysis leading to their specific numerical recommendations.

105. First, Sappington and Zarakas assume—without justification—that the CALLS price cap was at an appropriate level at the time that the freeze was imposed in 2005. Sappington and Zarakas provide an algebraic demonstration that, under certain conditions, “[i]f the prices that a firm charges for its products are initially set to secure a normal profit, then the firm will continue to earn a normal profit if its prices increase at a rate equal to the difference between the rates at which its input prices rise and its productivity increases.”¹⁷⁹ However, the CALLS proposal was a compromise involving several different Commission policies, seeking rough justice to untie a “Gordian knot.”¹⁸⁰ Moreover, the CALLS plan was intended to be temporary, running only until June 30, 2005.¹⁸¹

106. Sappington and Zarakas argue that the Commission should aggressively seek to lower price cap levels on the grounds that:¹⁸²

[t]he price cap LECs have the right to employ their proprietary data to demonstrate that a proposed price cap plan would not provide a reasonable opportunity to earn a normal profit on the supply of BDS. Consequently, the Commission has no reason to implement a revision of the price cap index or an X-factor that is unduly conservative. Less conservative action in this regard can help to ensure a price cap regulation policy that better serves BDS customers (and thus the U.S. economy) without risk of

¹⁷⁹ *Sappington and Zarakas BDS Declaration*, ¶ 10, footnote omitted. “Normal profit” refers to the best possible profit from an alternative use of the asset. (See Dennis W. Carlton and Jeffrey M. Perloff (2005), *Modern Industrial Organization*, 4th Ed., Pearson Addison Wesley at 35.)

¹⁸⁰ *In the Matter of Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Low-Volume Long Distance Users, Federal-State Joint Board On Universal Service*, Sixth report and Order in CC Docket Nos. 96-262 and 94-1, Report and Order in CC Docket No. 99-249, Eleventh Report and Order in CC Docket No. 96-45, rel. May 31, 2000 (hereinafter *CALLS Order Final Rules*), ¶¶ 26-28.

¹⁸¹ *CALLS Order Final Rules*, §§69.115, 69.157.

¹⁸² *Sappington and Zarakas BDS Declaration*, ¶ 43.

reducing price cap LEC profit below a normal level.

Professor Sappington and Mr. Zarakas are incorrect when they imply that there is little risk associated with making too large a one-time adjustment or setting the X-factor too high because service providers will appeal. First, even if it is successful, appealing is both costly and subject to delay. Second, reliance on a cost-based appeals process risks creating de facto cost-of-service regulation. In addition to being administratively costly, such a system of regulation creates perverse investment incentives. That is why it has largely been abandoned in telecommunications regulation.¹⁸³ Third, there is a market-wide externality across service providers: when a regulated service provider relaxes the price cap to which it is subject and raises its prices, rival service providers benefit. This effect is not internalized, which implies that the regulated service provider's incentives to appeal may be lower than the overall benefits associated with a successful appeal. Lastly, this is another point at which the asymmetry of the social loss function comes into play. If the Commission sets prices too high, entry will continue and facilities-based competition will continue to strengthen, thus generating the outcome regulation seeks to mimic. But if the Commission sets prices too low, entry incentives will be attenuated and competition will be stunted, with no mechanism for self-correction.¹⁸⁴

¹⁸³ Sappington and Weisman (2010) at 230. See also *Policy and Rules Concerning Rates for Dominant Carriers*, Second Report and Order, 5 FCC Rcd 6786 (1990), sub. history omitted.

¹⁸⁴ Regulation can attenuate entry incentives both directly, through regulation of all carriers, and indirectly, through regulation of the market leader and the subsequent effect that regulation would have on prices of other providers in the market.

V. CONCLUSION

107. The *FNPRM* identifies four principles that create the framework for its proposed regulatory scheme:

- Competition is the best way to ensure that consumers benefit from BDS, but where competition is inadequate, price regulation is warranted;¹⁸⁵
- Regulation of BDS should be technologically neutral;¹⁸⁶
- Regulation of BDS should remove barriers to adoption of more efficient technologies;¹⁸⁷ and
- Regulation should be forward-looking and should encourage new facilities-based entry.¹⁸⁸

108. The proposed regulatory schemes pose substantial risks of violating each of these principles. Because the proposed ex ante price regulation schemes would suppress investment and entry incentives and can be expected to distort the prices of services offered using different technologies and/or possessing different quality levels, the proposed regulatory schemes can be expected to: discourage competition and prolong regulation; violate technological neutrality; create barriers to the adoption of more efficient technologies; and discourage new facilities-based entry.

¹⁸⁵ *FNPRM*, ¶ 5.

¹⁸⁶ *FNPRM*, ¶ 6.

¹⁸⁷ *FNPRM*, ¶ 7.

¹⁸⁸ *FNPRM*, ¶ 8.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge and belief.

Executed on August 9, 2016



Dr. Michael L. Katz

REDACTED - FOR PUBLIC INSPECTION

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge and belief.

Executed on August 9, 2016



Dr. Bryan G.M. Keating

VI. APPENDIX: QUALIFICATIONS

A. MICHAEL L. KATZ

109. I hold the Sarin Chair in Strategy and Leadership at the University of California at Berkeley, where I have a joint appointment in the Haas School of Business Administration and in the Department of Economics. I have also served on the faculty of the Department of Economics at Princeton University and the Stern School of Business at New York University. I received my A.B. from Harvard University *summa cum laude* and my doctorate from Oxford University. Both degrees are in Economics.

110. I specialize in the economics of industrial organization, which includes the study of antitrust and regulatory policies. I am the co-author of a microeconomics textbook, and I have published numerous articles in academic journals and books. I have written academic articles on issues regarding the economics of network industries, two-sided markets, systems markets, and antitrust enforcement. I am a co-editor of the *Journal of Economics and Management Strategy* and serve on the editorial board of *Information Economics and Policy*.

111. In addition to my academic experience, I have consulted on the application of economic analysis to issues of antitrust and regulatory policy. I have served as a consultant to both the U.S. Department of Justice and the Federal Communications Commission (“FCC”) on issues of antitrust and regulatory policy. I have served as an expert witness before state and federal courts. I have also appeared before the California Public Utilities Commission and other state regulatory commissions, and I have testified before the U.S. Congress.

112. From January 1994 through January 1996, I served as the Chief Economist of the FCC. I participated in the formulation of policies with respect to all industries under FCC jurisdiction, and I oversaw both qualitative and quantitative policy analyses.

113. From September 2001 through January 2003, I served as the Deputy Assistant Attorney General for Economic Analysis at the U.S. Department of Justice. I directed a staff of approximately fifty economists conducting analyses of economic issues arising in both merger and non-merger enforcement. My title as Deputy Assistant Attorney General notwithstanding, I am not an attorney.

B. BRYAN G.M. KEATING

114. I am an Executive Vice President at Compass Lexecon. I received my Ph.D. in economics from Stanford University in 2007.

69. I specialize in the study of industrial organization and applied econometrics. My research has been published in several journals, including the *Journal of Law and Economics*, the *Review of Industrial Organization*, and the *Review of Network Economics*. I have also contributed chapters to several books, including a chapter (with Mark Israel, Dan Rubinfeld, and Robert Willig) on the Delta-Northwest merger to the Antitrust Revolution, a chapter (with Robert Willig) on unilateral effects analysis to the forthcoming Oxford Handbook on International Antitrust Economics, and a chapter (with Chris Cavanaugh and Mark Israel) on Econometrics and Regression Analysis to the forthcoming ABA Section of Antitrust Law, Proving Antitrust Damages, 3rd Ed.

70. I have been a consulting economist with Compass Lexecon since 2007. While at Compass Lexecon, I have conducted economic and econometric analysis in matters

related to antitrust litigation, arbitration/settlement discussions, regulatory matters (including telecommunications) and mergers. I have substantial experience designing and implementing complex econometric models using large-scale databases, especially in industries that involve differentiated products. I have analyzed issues relating to market definition, competitive effects, welfare analysis and merger simulation in a wide variety of industries including telecommunications, consumer products, computer software and hardware, airlines, health care, payment cards, and sports.

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Exhibit B

Declaration of Scott Anderson

REDACTED - FOR PUBLIC INSPECTION

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Business Data Services in an Internet)	WC Docket No. 16-143
Protocol Environment)	
)	
Special Access for Price Cap)	WC Docket No. 05-25
Local Exchange Carriers)	

DECLARATION OF SCOTT ANDERSON

August 9, 2016

Qualifications

1. My name is Scott Anderson. I am the Chief Legal Officer at Midcontinent Communications (“Midco”) and am responsible for all legal and government affairs for Midco. I served as Vice President Legal and General Counsel from 2012 to 2016 overseeing all legal affairs of Midco. Since January 2016, I have served as Chief Legal Officer overseeing all legal and government affairs. Prior to being employed by Midco, I served as outside counsel to Midco handling various corporate matters for over 18 years.

Introduction

2. I am submitting this Declaration on behalf of Midcontinent Communications in the above captioned matter. Midco serves rural markets throughout North Dakota and South Dakota. Midco presently provides voice, video and data services in 199 communities in those two states. To emphasize the rural nature of the area, only five of the communities served by Midco in North Dakota and South Dakota have a population in excess of 50,000 and only eight have a population in excess of 25,000.

3. Business data services (“BDS”) is one of the fastest growing segments of Midco’s business over the past several years. Midco is concerned about the impact of new regulations being considered by the FCC on BDS services and, in particular, potential rate regulation for such services. In rural service areas, virtually every project must be measured, evaluated and priced on its own merits, taking into consideration the usual lack of potential customers available to share the cost of network expansion. Rate regulation may make a number of future BDS projects simply beyond the reach of Midco and potential customers.

Economic Analysis of Competition

4. CompassLexecon conducted an economic analysis of the markets served by Midco in North Dakota and South Dakota based on data submitted in the 2013 data collection. That analysis shows that virtually all of Midco’s territory would be considered non-competitive using census blocks as the geographic market. Using a four-provider test, as proposed by a number of CLECs, **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

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According to the analysis conducted by CompassLexecon, even using a two-provider test at the census block level leads to absurd results when applied to rural areas like those served by Midco. Because business locations can be sparse and spread out, CompassLexecon determined that nearly **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

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INFORMATION]And such regulation would apply without any evidence that the price charged would be unjust and unreasonable as applied to that provider's provision of service to that particular customer.

5. The competitive market tests proffered by CLECs, Verizon and others do not reflect market realities in rural areas. Midco does not assess BDS investments by census blocks but looks at the geographic franchise boundaries of the communities it serves. Midco is able to offer BDS services in all communities it serves in North Dakota and South Dakota. Midco's experience is that 100% of the 199 communities in which Midco holds franchises to provide services in North Dakota and South Dakota have at least two providers of BDS services. If the FCC determines to utilize census blocks as the relevant geographic market and requires more than two competitors in that market for it to be considered "competitive" for regulatory purposes for BDS services, Midco would face rate regulation across virtually its entire service footprint. Based on Midco's actual experience in its service footprint, that is not an accurate characterization of the competitive marketplace faced by Midco and the other local providers.

Existing Competition and Pricing

6. Midco currently faces real competition in every community in which it provides BDS services in North Dakota and South Dakota. Each of these communities is also served by a local exchange carrier that vigorously defends its market position and

actively pursues BDS customers. When seeking services, BDS customers, even in rural communities, survey the marketplace for competitive pricing and services, whether through direct inquiries of the providers or by a request for proposal (“RFP”) process.

With regard to customers initiating an RFP process, Midco has responded to **[BEGIN**

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providers in North Dakota and/or South Dakota. Midco has been successful in

approximately **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END**

HIGHLY CONFIDENTIAL INFORMATION] of the RFPs to which it has responded.

Overall, BDS RFP pricing is following a downward trend. An analysis prepared by our

business sales group shows a decrease in overall RFP pricing of **[BEGIN HIGHLY**

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INFORMATION] for BDS services over the last two years. Clearly a competitive

bidding environment exists for BDS services.

7. From a wholesale perspective, national and regional carriers come to Midco for requests to provide service to their customers within North Dakota and South Dakota.

The national carriers request pricing/service delivery quotes from the provider(s)

depending on location of the customer. According to Midco’s wholesale sales group,

Ethernet BDS pricing has been steadily declining especially with the growth of business

base in North Dakota and South Dakota. Midco’s wholesale business is seeing an upturn

in national providers requesting services to be bid (as opposed to issuing RFPs) over the

past two years. Midco currently has **[BEGIN HIGHLY CONFIDENTIAL**

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8. Based on information provided by its business sales group, Midco aggressively prices BDS services. However, BDS pricing must satisfy certain internal criteria, including minimum internal rate of return thresholds. Because of that, offered pricing to new business locations depends upon the amount of contracted revenue that can be expected from the potential customer over the term of the contract. In addition, construction costs and other costs to provide the services must be evaluated and considered. Considering the unique characteristics of rural markets and, in particular, rural markets in South Dakota and North Dakota, the costs of construction to certain business customers can be significant. Unlike more urban areas, frequently there are no (or very few) other business customers along a proposed service route, so Midco may be unable to share the cost of network expansion with other prospects and potential customers. We cannot emphasize enough the geographic differences – and resulting higher potential costs of providing service - between rural states such as the Dakotas and the more heavily urban areas in which other providers may offer service. Sparsely populated service areas with potentially long distances between BDS customers do not lend themselves to uniform price regulation.

9. The FCC has defined market power as the ability to control price. Midco lacks the ability to control rates because any attempt to do so will result in local exchange carriers simply underbidding us. In fact, Midco generally must offer rates that are lower than those charged by the local exchange carrier in order to obtain or retain the BDS business. As mentioned previously, the local exchange carriers are very competitive and

vigorously defend their markets. Even in those instances when Midco has not been able to win the business, Midco's presence and responses to RFPs or other requests for bids has served to keep the offered pricing low for BDS customers.

Uncertainty of Regulation

10. Uncertainty in the markets introduced by new regulation or the threat of new regulation makes pricing and buildout decisions more difficult and may potentially have the unintended consequence of reducing competition. As pointed out above, prices are already decreasing due to ongoing competition for BDS customers. Midco desires to continue to build out to new BDS customers, but rate regulation may limit our ability to generate revenue to justify further plant expansion. The end result may be increased caution in evaluating the buildout of services to potential BDS customers instead of the current aggressive bid/buildout process.

11. The existence of two competitors in Midco's rural markets in North Dakota and South Dakota has created a competitive environment for the pricing and provision of BDS services. The market is working. Requiring more than two competitors in a given market to meet the definition of "competitive" is not necessary for BDS customers to continue to enjoy a competitive pricing environment.

12. The statements in this declaration are true and correct to the best of my knowledge and belief.

VERIFICATION

I declare under penalty of perjury that the foregoing is true and correct.



Scott Anderson

Dated: August 9, 2016